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THE SOCIAL REMEDIES OF THE LABOR PARTY.

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I.—THE DEFECTIVE STATE OF ECONOMIC KNOWLEDGE GENERALLY.

THE moderate party in politics, by whatever name it calls itself, presents at this moment a curious spectacle of embarrassment, when confronted with the claims and opinions put forth in the name of labor. It finds itself bewildered by a double apprehension of danger. If it allows itself to be led by agitators, it fears the reproach of Socialism. If it turns a deaf ear to them, it fears the loss of their support. It must also be added that it fears in either case the doing of something which may aggravate evils instead of curing them; or the not doing of something by which they actually might be cured. In other words the Labor party of to-day finds an enormous and powerful body practically arrayed against it, which ought, from a genuine identity of aims and wishes,

to be, within limits, its cordial or even enthusiastic ally. Radicals are accustomed to assure their hearers that the sympathy of Conservatism with Labor is a sham. They are wrong: and yet their assertion receives some color from facts. The sympathy in question is not an unreal feeling; but it no doubt is, in proportion to its reality, an inoperative feeling.

Now why should this be so? I believe myself that the answer is very simple.

The claims of Labor as at present put forth by those who are supposed to represent the laborers, and the ulterior aims and hopes which such persons avow likewise, comprise much with which Conservatism agrees; but this unfortunately is associated with much else which Conservatism condemns, and refuses to entertain for a moment: and Conservatism rejects or suspects the former element owing to its association with the latter. It is un-

able to separate the one element from the other, to adopt the true while absolutely rejecting the false, or to take up a position which is intelligible to itself, and—an equally important thing—which it can make intelligible to others.

But not only is Conservatism thus alienated from Labor. Labor is alienated from Conservatism largely for the same reason. The hostility roused by its fallacies, it takes to be hostility to its just and practicable demands, and its legitimate aspirations; and it is tempted to believe that the propertied classes, as such, can never meet it honestly on any common ground. For this state of things there is only one remedy. It is increased knowledge and clearness, among Conservatives, with regard to economic science: and this is a remedy which ought surely to be within our reach. If we doubt this, let us look at the Labor party; and we shall be shamed into believing it. That party, whatever may be the fallacies cherished by it, has made immense progress, even during the last decade, in its grasp of economic science; and still more in its perception that the social questions which occupy it, must be, and can be properly dealt with, only by scientific methods.

It may well be that this mental advance has thus far been as instrumental in leading it wrong, as in leading it right; but it has at all events made it familiar with the idea of a common tribunal to which both parties must appeal: and even among those labor leaders whose tempers are most violent, and whose doctrines are most incendiary, a distinct sense is discernible that their position can only be defended, and their hopes realized, in proportion as they are in accordance with a mass of complicated facts, and can be proved to be so not by invective, but by reasoning. Such being the case, the duty of Conservatism is clear: and the existing situation is eminently favorable for the performance of it. The current economics of the Labor party must be by the Conservative party carefully examined and analyzed, the true part admitted, welcomed, and separated from the false; and the false part separated from the true, its falsehood explained, and corresponding truths put forward to take its place. And this must be done not in a spirit of anger, of alarm, or even of contempt—though here and there no doubt ridicule may be

a fit weapon. It must be done with consideration, with respect, and above all that intellectual sympathy which by placing a disputant in the actual position of his opponents, alone enables him to completely dislodge them from it. If this is done there is every reason to hope that even should the more extreme sections of the Labor party not be weaned from their extravagances, the position of the rest will be rapidly and greatly modified; and we shall witness the formation of a large and powerful body, which while genuinely representing the claims and aspirations of Labor will yet, by the accuracy and sober sense of its views, enlist on its side the forces of all sane Conservatism, instead of forcing them into an antagonism which, though at present inevitable, is unwilling.

It would, however, be a great mistake to suppose the duty of Conservatism is merely the economic education of the Labor party. An equally necessary duty is the economic education of itself. There never has been a time when economic questions have so mixed themselves with political questions, as they do, or are about to do, now; and there has never been a time when the general ignorance of economics among practical men has been—I will not say so great, but at all events—so pitifully apparent. What professors and students may know, it does not concern us to consider. They have not succeeded in imparting their knowledge to practical men; they have been unable to express themselves in a language understood of the people; and the extent to which the Labor party has advanced in its own education, shows how little all other parties have contrived to advance in theirs. Indeed, when in bodies like the London County Council, the wildest schemes are put forward by the least capable of the Progressives, it is sometimes difficult to say where the greatest ignorance is displayed—among those who defend such absurdities, or those who endeavor to expose them.

This ignorance is due to more than one cause. It is due not only to the fact that practical Conservatives, as a body, are no great readers of standard economic treatises; but also, and in a far greater degree, to the fact that these treatises, whatever their merits, are, in the present condition of things, altogether inadequate. And they are inadequate for three rea-

sions : firstly, because their scope is too limited, many of the most important elements involved in economic questions being ignored in them ; secondly, because the elements with which they do deal are in some respects falsely, and in others, incompletely analyzed ; and, lastly, because the language in which these treatises are written, and the form of thought of which that language is the expression, are, for present purposes, not sufficiently alive. They do not bring those whom they influence face to face with facts, but show them facts from a distance, through a medium of theories and of phrases.

The errors of the contemporary Labor party, and the feebleness of contemporary Conservatism, are both due to this same cause. Where the Labor party err most seriously in their economics, they err either by vitalizing some error in the economics of Conservatism, or by borrowing from it some accepted phrase, which, not being really living for them, serves to hide from themselves some error of their own, and inspire them with a defiant trust in it, as if it were an undisputed truth. Many of the Labor leaders who have been giving the public their opinions, either through the medium of the monthly Reviews or of the Labor Commission, show a logical sense and a regard for scientific methods which must command the respect of those who most disagree with them ; but with much that is true, and more that approaches truth, there are mixed in the utterance of even the shrewdest of them a number of the wildest fallacies, and these invariably are expressed in terms of the most old-fashioned and orthodox economy. It is in these fallacies that the real danger lies. They would not only, if embodied in legislation, produce results that are mischievous, but they alienate those who would, under other conditions, have at once the will and the power to accomplish results that would be beneficial. And yet, such is the unfortunate condition of affairs that the Labor leaders often make their fallacies less ridiculous than the corresponding truths are made at many a meeting of the Primrose League.

If what I have just said seems vague, I will sum it up in a form which will make it, I think, sufficiently definite.

Broadly speaking, the creed of economic Conservatism is this—that the existing structure of society is capable of modifica-

tion and adjustment, and may thus be capable of improvement to an indefinite extent ; but that it is not capable of being altered fundamentally ; that to alter it fundamentally would be to destroy society ; that there may be communities in which no one is rich or prosperous ; but that whenever the majority is prosperous there will be a minority which is rich ; and that where the rights of the latter are disregarded, those of the former can never be secured. The rights of the few are not greater than the rights of the many, nor are they in themselves more important ; but at the present moment they are more important in this way. Being the rights which are most attacked, they are the rights which it is most important to defend, and this for the sake of the many as much as for that of the few themselves. The few would be quite willing to help the many out of the ditch ; but their impulse will naturally be checked if the many are constantly proclaiming that the moment they are out they will hamstring those that helped them. The impulse of the few will thus be checked, for two reasons—firstly, the natural wish to avoid their own mutilation ; secondly, the knowledge that if they are rendered helpless, those they have helped out will infallibly slip back again. Their first business, therefore, at present, is to defend their own position, not by violence toward those who threaten to attack it, but by making it clear that their position is not a proper object of attack. They must make this clear not to themselves only, but to their opponents. They must learn to speak in a language which their opponents can understand ; and, as I have said already, if they will only do this there is every reason to expect that they will meet with an intelligent hearing.

But economic science, as at present conceived of and taught, I have said already, leaves them wholly unprepared for such a task ; partly because the current conception of the science is too narrow, and partly because it is defective even within the limits which it has assigned to itself. I will explain my meaning by examples. Socialistic economists conceive themselves to have enlarged the science—and they no doubt have done so—by adding a study of history to the analysis of contemporary conditions. But what they have done in this way shows only how much more there

is to do. Take Karl Marx, for instance, who as an economic historian is respected by numbers who ridicule him as an economic theorist. Karl Marx begins his history with the close of the feudal period; he chiefly concerns himself with the history of one country—of England; and he imagines that he can account in this way for the existence of the whole body of the rich as we have them in this modern world. He seems quite unconscious of the fact—or, rather, the significance of the fact—that in all civilized societies of which we have any knowledge, a rich minority has invariably made its appearance; that such minorities have been constantly attacked, and not infrequently destroyed; but that when they have been destroyed, society has been, for the time, destroyed along with them; and that, as soon as society has readjusted itself, a similar body has reappeared. The obvious inference is that though history, as Karl Marx studied it, may explain the particular form which the rich class has now assumed, the real cause of its existence is to be sought in something far wider and deeper—not in any one sequence of historical conditions or events, but in the constitution of human nature itself, of which all historical events are nothing more than the manifestations.

Here, again, is another instance. Current economic science declares wealth (by which is meant commodities) to be the product of three things—land, labor, and capital. In reality, it is the product of something which, indeed, includes these, but which is far more complex. It is the product of all those social conditions, any one of which being absent, the amount produced would be diminished. Thus, supposing it to be a fact that the leaders and instructors of Labor, owing to whose ability Labor becomes more productive, could be roused to exert themselves only by the prospect of being one day idle, the advantage of their exertions could be secured only by a society the constitution of which made an idle class possible; and in which the possibility of such a class was made evident by its existence. In such a case it would be no figure of speech, but a statement of fact, baldly and absolutely accurate, to say that this idle class was actually one of the producing classes; and to credit it with the production of just such an amount of commodities as

would cease to be produced were its existence made impossible, and the stimulus removed from those who exert themselves in the hope of entering it.

I will give one instance more. One of the commonest laments among politicians of the most opposite sympathies is a lament over the influx of population from the rural districts into the towns. In our own country, as we all know, this is commonly accounted for by some defects in our land system. Now the inadequacy of this explanation should be made patent to all by the fact that the movement is in no way peculiar to Great Britain, but is common to other countries where land systems are entirely different; and, indeed, many economists have been careful to point this out, and to seek an explanation in some other economic cause. But the truth is that the larger part of the explanation is to be found in a cause which has hitherto been regarded as lying outside the domain of economics altogether; and that is the development of what goes by the name of education, in which must be included the effect on the mind and imagination of rapid travelling, both as a spectacle and a possibility. What is taking place, in fact, among the poorer rural classes is analogous to what is taking place among their social superiors. The rich, as we all know, are tempted to leave their country houses for London, or other places where friends or novelties are to be encountered. Some of them do this with a view to saving money; but the richest are just as restless as those who have most need to economize; and the main cause of their restlessness is not agricultural depression. It is not any want of money; but a craving for a more varied life. And just so is it with those below them. The ploughboy does not come to London because he has a grievance against his squire. He comes to London because he craves for streets, and gas-lamps; and because he fancies, as vividly as his squire does, that among them he may find happiness—and he does not fancy it more vainly. In other words, influx of population into the towns is a mental movement, quite as much as an economic movement, and can never be understood till that fact is fully recognized. In saying this, I am using the word *economic* in its old and narrow sense. My contention is that it must be used in a sense far wider; and that the mind and

the tastes, and the imagination of man, which are all factors in the production and distribution of wealth, must be all included in the subject-matter of economic science before that science can explain the phenomena with which it is confronted.

These, however, are wide questions ; and I can, in this place, do no more than allude to them. But I have said that the inadequacy of our current economic science was due not only to its scope being too narrow, but to its imperfect treatment of the subjects with which it has been most constantly occupied ; and my present purpose is to call attention to certain of these.

II.—THE DIVISION OF PARTIES CAUSED BY DEFECTIVE KNOWLEDGE.

The imperfections of a science appear most plainly, when it is found manifestly unable to prevent or refute fallacies, or to explain the nature of difficulties, which press for practical solution. The problem of the unemployed, and the demand for an eight-hours working day, form, by the manner in which they are discussed and handled, the most startling evidence ever yet put forward of the practical imperfections of the contemporary science of economics ; and I shall confine myself to the imperfections which it specially brings to light.

Let me first, then, putting aside all minor differences of opinion, state the general view with regard to these two subjects, held by the leaders of the Labor party, and urged by them on the rest of the community. They urge—and here the rest of the community is with them—that the existence of a body of men able and willing to work, and yet starving because they have nothing to work at, is not only a scandal from the point of view of the philanthropist, but a danger or constant trouble from the point of view of the statesman. Such being the case, their contention is that work must be provided for these men by the State ; and the State must provide it in one, or more probably in both, of two ways—a direct way, and an indirect way. The direct way is to make, or allow public bodies to make, work for them—the work to be paid for by new rates or taxes. The indirect way is to limit the hours of work ; so that, the aggregate product required still remaining unchanged, more men will be required to

produce it, and the labor of the unemployed come into demand accordingly. This, however, is not the only ground on which the limitation of the hours of work is called for. Its object is not only to secure work for those who have not got it, but also to improve the condition of those who have. In other words, the objects of the Labor party are these—to make the community, either by the agency of the Government or otherwise, find for every one, not in ordinary employment, employment by which he can keep himself in some minimum of decent comfort ; and to secure for the masses employed in the ordinary way, an increase of leisure, without a reduction of wages ; so that, on the one hand, the average condition of the workers in general shall be raised ; and, on the other, that the least fortunate of them need never be in danger of destitution.

Now these objects—let me repeat it—are objects with which Conservatism not only has no quarrel, but which, in so far as they are practicable, it is its instinct and interest to promote ; and the one thing which interferes with its doing so, is not want of sympathy with the objects of the Labor party, but a want of confidence in their proposed methods. In the minds of most Conservatives this want of confidence is vague. They cannot specify the grounds for it ; and therefore cannot help to remove them. What I am anxious to do is to turn their vagueness into precision ; and to explain precisely what these grounds are.

The first, and, with a considerable number of timid people, the principal ground, is not any definite demand put forward by the Labor leaders, but the temper in which their demands are made. A large proportion of the Conservative classes feel that the Labor leaders are approaching them with hostility, as people who would attend to the claims of Labor only under compulsion, and who, in some way, were the cause of its sufferings, or even profited by them, or were, at all events, indifferent to their continuance. The people thus approached feel that they are being treated unjustly ; and what is wanted is a clear and popular proof, which all classes can grasp, that such treatment is the result of a great and fundamental misconception.

The prominence now given to the problem of the unemployed makes such a

popular proof exceptionally easy. Let us consider for a moment the explanation which at present passes muster not only with agitators, but with many conscientious thinkers as to the origin of wealth, and the existence of a wealthy class. All wealth, it is said, is produced by labor; and the wealth of the wealthy consists of the whole, or a part, of what the laborers produce in excess of the necessities of their existence. As to the adequacy of this explanation I shall speak on a future occasion; but, at all events, it emphasizes one indisputable truth—namely, that every capitalist or employer who carries on any enterprise at a profit, or, in other words, who permanently carries on any enterprise at all, derives a certain profit from every laborer he employs; so that the conditions of employment being whatever they may be, every fresh laborer he employs means some addition to his income, and every laborer he is obliged to discharge means a diminution of it. Now, every agitator is fond of declaring that employers and capitalists are animated by an insatiable greed; and that their sole desire is to increase their incomes. And in a certain sense this is true. But what does it prove? It proves one thing at all events—that the presence in a community of a body of unemployed men is not to be laid to the charge of employers or capitalists. It is, on the contrary, a sign of a state of things which employers and capitalists, from even the most selfish motives, would avert, and which the greater their greed, the more eagerly they would desire to remedy. Socialists often quote the saying of an old English writer, "The labor of the poor is the gold-mine of the rich." Is it likely that the rich, if they could help it, would leave the gold-mines idle? Obviously, therefore, up to a certain point, the capitalists are as much interested as any class in the community in finding employment for the unemployed, and are the natural allies, not the enemies, of all who wish to find it.

Were this fact more generally realized, it would go a considerable way toward allaying the cruder kind of distrust with which the rich are regarded by the Labor party. It would show that, at all events within certain limits, the interests of the two classes are identical. This, however, would be a first step only toward a right understanding between them. The more

important questions at issue would still remain to be settled. For it is probable that theoretically the more instructed of the Labor leaders assent already to the fact that has just been stated. They admit that the capitalists could not employ the unemployed at a profit; and that they would so employ them if they could. Their contention, therefore, is narrowed down to this—that the capitalists should be compelled to employ these men without profit, either by paying them for unremunerative work, or else by paying them to assist in work which is indeed remunerative, but which those employed already are fully capable of performing. These two methods must be considered separately. The latter, as commonly advocated, takes the form of an Eight-hours Bill. The former, perhaps, will be hardly recognized from the description, as being the method about which, at this moment, we hear so much—of municipal employment for the unemployed, to be paid for out of new rates. But the description just given is accurate; for whoever may decide what the employment is to be, it is the capitalist, or the well-to-do classes generally, who are to pay for it. Let us consider this method first, and see exactly what it means.

III.—THE MUNICIPAL EMPLOYMENT OF THE UNEMPLOYED.

To see what it means we must first realize the distinction between the kind of work which the capitalist naturally gives to his employés, and the kind which it is proposed that the municipalities should give to the unemployed; for the distinction is a very important one. Suppose that the island of Atlantis were suddenly to re-emerge from the waves, and with it an opulent society, which would eat no corn but British, and had a limitless power of consuming British manufactures. For a time, at all events, not only profits, but wages, would go up by leaps and bounds; the difficulty would be not to find work, but workers. The problem of the unemployed would for the time have ceased to exist. The employers, without compulsion, would be eager to employ every one. And why? Because every one could be employed to produce commodities for which there was a spontaneous demand. The unemployed make their appearance only when the demand falls

off either absolutely, or relatively to the number of workers; and the unemployed are neither more nor less than persons who, if employed at all, could be employed only to produce commodities for which there was no demand, or else a demand so small that their exchange value would barely provide subsistence for the workers engaged in their production. Here, then, is the difference between workers employed naturally, and workers employed merely that they should not want employment. The former produce wealth, and the latter do not.

Let me make this point quite clear. Wealth begins only when the community begins to produce more than is required for its mere bodily sustenance. Of this surplus, as matters now stand, a large portion goes to those who direct the workers, or own the instruments of work; but such a distribution of the product does not affect in any way the question we are now dealing with. For the problem forced on us by the existence of the unemployed is not how to provide them with luxuries, but how to provide them with necessities—with what Mr. Keir Hardie calls “a minimum of humane living.” Now the most selfish rich man imaginable, however he spends his money, is distributing that minimum whether he will or no. Suppose, for instance, he spends a thousand pounds on a carpet. This means that probably some twenty men have been working for a year to provide him with a superfluity, instead, we will say, of enlarging their own houses. But the necessities of life are distributed among them nevertheless. And however the rich man spends his money, whether productively or unproductively, the same thing must happen. He ceases to be a distributor of necessities only when he lets his capital lie idle, and, instead of spending his income, adds it to the imprisoned hoard. To say this is a very different thing from the old and foolish fallacy that lavish expenditure of the rich must necessarily be beneficial to the poor; for extravagant luxury may mean, and constantly has meant, the over-work of the poor, and the bad pay of the poor. But there is one thing which, as long as it lasts, it does not mean, and that is the idleness of the poor. From an economic point of view there is all the difference in the world between over-work or badly paid work and

no work. The amount of suffering which they produce may be identical, but they are distinct maladies, and due to distinct—indeed to almost opposite—causes. The over-worked and under-paid man says to the rich, “You get too much out of me, and give me too little.” The unemployed man says, “You give me nothing;” but he is also compelled to add, “You get nothing out of me.” Were there anything to be got out of him he would be employed. The fact of his not being employed means a very different thing. It means that the exchange value of anything he might be put to make would not exceed, at the utmost, that of the bare necessities requisite for keeping him alive, and would most probably fall short of it. But this is precisely what does not hold good of those employed in the ordinary way. Such men produce exchange values not only equal to, but in excess of the cost of their subsistence; and this surplus, no matter how appropriated, is, as I said just now, wealth, and the material of civilization; and nothing else is. Were employers obliged to employ all the workers on the same terms as those on which it would be necessary for them to employ the unemployed, all wealth and all civilization would vanish; and the utmost that then the whole community could do would be to keep body and soul together in a state of barbarous squalor. The unemployed, then, are men who, under a given set of circumstances, cannot be employed by capitalists so as to produce wealth, and who, if they are to be supported at all, must consequently be supported at the expense of it.

I have spoken thus far of labor only as employed by the private capitalist. Let us next consider how the situation would be altered if the State or the municipality stepped in and dealt with the unemployed instead of him. It is obvious that, in one sense, the private capitalist would be the employer still; for the money which it is proposed that the State or municipality should raise must come out of his pockets, and the public body that extracts it would be nothing more than the manager. But would the character of the expenditure be altered by this change in management? It would be fundamentally altered only if the public bodies were able to do what the private capitalist, *ex hypothesi*, is not able, namely, to find work for the unem-

ployed which would result in a profit—in a value in excess of the current rate of wages, like the work of those employed in the ordinary way. But the public bodies, in order to do this, would have to be possessed of a kind of commercial genius far beyond that possessed by the keenest of ordinary employers; and there is no sign that any such genius is expected in them. Were they always able at need to start fresh remunerative enterprises, then, of course, the whole problem would be solved; and they would get what money they wanted, not as rates, but as an investment. But the kind of work which it is proposed they should undertake is not put forward as remunerative. Let us consider what it is. It is of two kinds. One is the production of things which are required and supplied already, but are at present supplied by private enterprise, such as the clothing of officials or the maintenance of public buildings. The other is the production of new things, which though, if produced, they might be for the public benefit, nobody has hitherto ever thought of asking for. A good example of this kind of proposed production is one which has been suggested by Mr. John Burns—the building, by the unemployed, of an Hôtel de Ville for London, the cost of which, he estimates, would be about a million pounds. Both these kinds of municipal work would, it is contended, do much toward extinguishing the existence of an unemployed class. Let us see how far this would be the case really. We must deal with them separately, for they stand on separate footings.

With regard, then, to work of the first kind, namely, the production by municipalities of things which they require already, but at present procure elsewhere, we may say at once that this is a remedy altogether illusory. It might seem to cure the evil in question, but it really would only shift it. It might find employment for individual unemployed persons, but it would be doing so by reducing others to the same position. It would not abolish the suffering. It would merely change the sufferers. A municipality at present buys a certain amount of clothing, and this means the employment of a certain amount of labor. If, instead of buying it, it sets the unemployed to manufacture it, by employing these men it is ceasing to employ others. What it gives with the

right hand it takes away with the left. Those who advocate such municipal employment imagine that, at all events, the employment given would be more constant than that given by ordinary employers; but here again is a fallacy. If a hundred suits of clothing are required annually, a certain number of men are employed already to produce them—let us say four men, working the whole year round. But if the municipality employ four new men instead of these, and the original four become consequently unemployed, the municipality will be bound to find employment for these also, which it can only do by employing each group for six months only; or by paying for the coats double their market price; or else by paying for the production of twice as many coats as are required. This last alternative is what would be really, and necessarily, the outcome of a municipality's engaging to find employment for men for whom none could be found in the ordinary way of business. They would be employed to produce goods for which there was naturally no demand. An artificial demand would be created by the municipality itself. Its officials would be provided with a superfluous change of raiment. But in this case the remedy would lose its supposed character, and the constancy of employment would be due, not to the fact of the municipality producing for itself what at present it buys from others, but to the fact of its being willing to produce for itself a great deal more than it buys.

In that case the work changes its character, and becomes indistinguishable from work of the second kind I have mentioned—such as supplying London with some huge public building, the want of which has never been felt hitherto. That is Mr. Burns's proposal. It would be easy to add others. Any number of halls might be built for public meetings, or arcades where the public might take exercise in wet weather. There is no end to the things which might be built, and which, if built, might have a certain utility, but for which nobody asks, and nobody really wants. From the point of view of the private employer the labor employed on such buildings would be thrown away. From the point of view of the public such buildings would be superfluities—things which, in familiar phrase, it “does not

want much." They would be like a picture a man buys from a poor artist out of benevolence. They would be a new embodiment of the old doctrine that the extravagance of the rich is a remedy for the want of the poor; only here the extravagance is not private but public. There is very little difference between the two cases. It may, no doubt, be said that in the latter case the public, which include the poor, are spending money on themselves, and that, therefore, all benefit by it. But the class with whose misfortunes we are at present dealing, though they might benefit by producing these superfluities, would not benefit by them when produced. If the London County Council were to pave Piccadilly with marble, it might distribute good wages among men who would otherwise be starving, but when the work was done the evil would be just what it was before. Men can starve on marble pavements, or on the steps of Hôtels de Ville, just as easily as they can on a mound of refuse; and, so far as the question is concerned of supplying the unemployed with subsistence by means of work, to the unemployed themselves it would make very little difference whether a million pounds were spent in building an Hôtel de Ville or whether the London County Council spent it on turtle soup.

There is, however, another side to the question. Public luxury may tend to relieve poverty no more than private luxury. But private luxury, within certain limits, does tend to relieve it, and so would public luxury. The great point to be clear about is what these limits are. Suppose that the riches of the rich class were inexhaustible—were constantly being showered on them from another planet. In that case the larger their demand for the luxuries with which the rest of the community could supply them, the keener would be the demand for labor; and with every desire for some new means of self-indulgence labor would rise in price. But the riches of the rich being a limited quantity, the increase of luxury may mean one or other, or both, of two very different things. It may mean first, that the rich have been able to lower the price of labor, either by forcing the laborer to work longer than he has done hitherto, or to give the same amount of work while accepting reduced wages; and this would

mean the misery, not the benefit of the laborer: or, it may mean something as bad, which we will consider presently.

We will deal with this case first. In this case the increase of luxury fails to benefit the laborer only because it is possible to increase his toil and reduce his wages. But if every laborer could command a certain sufficient wage as a minimum, and could not, without further payment, be forced to do increased work, then, so far as the necessities of life are concerned, an increase of luxury would mean a stimulation of the distribution of these—a distribution, as Mr. Keir Hardie says, of the means "of humane living." So far as this result is concerned, it would matter nothing whether the luxury were private or public—whether it took the shape of aldermen bursting with turtle, or the sky-line of some street being broken by the turrets of an Hôtel de Ville. Of course, the aldermen's dinners would, in themselves, be no advantage to the laborer; but, for him, an Hôtel de Ville would only be preferable in comparison to them on account of the very faint and very problematical pleasure he might derive from glancing at its outlines, or some momentary and almost imperceptible convenience it might afford him when he wished, on rare occasions, to consult the municipal authorities. But so long as the expenditure on the dinners or the building lasted, without doubt he would be benefited, and his specific misfortune, as an unemployed person, would be altogether remedied. Farther, if, when men were out of employment, work could always be found for them in the construction of new public superfluities, such employment of labor by public bodies would be a complete solution of the problem of the unemployed.

It remains, however, to consider what would be involved in this. I have said already that luxurious expenditure may mean another injury to the community, besides the oppression of labor. The money that is to pay for it must come from somewhere. Where must it come from? It is needless to repeat that it must come out of the riches of the rich. But that is only half the answer. The riches of the rich at any given moment are divisible into two portions—their capital and their incomes; and their incomes are again, in many cases, divisible into the

portion they spend and the portion which, instead of spending, they add to their capital. Now from which of these portions will the money come which the municipalities are to extract, in the shape of rates, for the employment of the unemployed? If it comes from the portion which, at any given time, the rich are voluntarily spending, it cannot possibly have the effect required; and for this reason. If reasonable hours of work and reasonable wages prevail, whatever sum a rich man may be spending, no matter how selfishly, he is distributing the means of "humane subsistence" to as large a number of laborers as the sum in question will allow him to; and if out of this sum he is obliged to pay £500 to the rates, in order that it may be paid in employing the unemployed, he of necessity ceases to give employment to a certain number of laborers whom he has himself been employing hitherto, and the number of the unemployed will thus remain unaltered. If a man spends, as income, £5,000 a year, and if wages are £50, he is giving employment to a hundred laborers annually; nor can the same sum, unless the wages are docked, possibly give employment to more.

It will, no doubt, be answered that this is true of the £5,000 if spent unproductively, but that it would cease to be true of any part of it which the municipality or the individual elected to spend productively. It will be said that in paying in rates £500, a man is practically making ten men produce food for ten other men, instead of making carpets or gilded chairs for himself; and that these ten other men might be employed on Mr. Burns's Hôtel de Ville. But this is the very result that in bad times cannot be brought about; and times are bad because people do not know how to bring it about. The first element of subsistence is food. An enormous proportion of the food of the inhabitants of this country is produced abroad, because this country cannot produce enough for them; and we are able to import it from abroad, because we manufacture equivalents. But the amount of equivalents we can produce is limited not only by the number of the actual commodities we can fashion, but by the number of such commodities that other nations want. When these commodities exceed that number they cease to be equivalents

for food; the number of men who can be fed by their manufacture is diminished, and the number employed in it is consequently diminished also. Putting those aside who either cannot work or who will not, men are unemployed for one or other of two reasons: either that under existing circumstances, and in the existing state of knowledge, nobody can tell how to employ them so as to produce necessities; or that people of means do not wish to employ them in producing superfluities, but would rather save their money for employment at some future time. If, then, the municipalities are to find employment for those who cannot find employment naturally, which simply means that they are to force the rich to employ them, the money that their employment will cost can be extracted from one source only—namely, money which one set of men are unable to employ in producing salable commodities, or which another set of men do not wish to employ in the production of enjoyable commodities—in other words, money which in either case would be not spent but saved.

If, therefore, employment which is to be paid for out of a new rate is really to have the effect anticipated and desired by its advocates—namely, the diminution of the number of the unemployed, not merely a change of the individuals—if, without taking food out of one set of mouths, it is to put food into another, the rate which is to provide this employment must come not from the riches which the rich are at present spending on themselves, but the riches which at present they are not spending at all. It must be a tax not on their luxuries, but on their savings.

I am not saying that, within limits, such a tax might not be quite justifiable. It would certainly for the moment do one thing at least that is claimed for it. It would give subsistence to those who have not got it, without taking it from those who have. But while recognizing that it would do this good, it is essential to realize the cost at which the good is done. It is done by consuming wealth in an unproductive way to-day, which, if not so consumed, would be employed in a productive way to-morrow; and, what is still more important to realize, it is consuming wealth in this unproductive way, at the precise period when there is least to consume. The plan, therefore, for taxing

national savings, so that municipalities may employ the unemployed on such things as new public structures, is to be justified only as a temporary palliative, used in expectation that the men employed thus will by-and-by be absorbed into the army of productive workers. If there is no chance of this, to maintain them in this country would be to perpetuate the wound; and the only true remedy would be to transfer them to some other territory, where their work might be self-supporting. This can be clearly seen by considering another remedy, which we can all easily imagine, and which, could we only provide it, would, it is self-evident, cure the evil at once. Suppose some genius discovered a new manure, made out of the refuse of English manufactures, which if applied to English soil would quadruple its present yield, then the manufacture or application of this manure would at once afford the unemployed employment in a natural way. Their labor would be competed for. They would assist in creating the food on which they subsisted. But no such manure is forthcoming, nor any remedy analogous to it; and any remedy applied at home, which differs from this essentially, must differ from it in being no true cure, but only a palliative, which is in its very nature temporary. The only true cure in that case is emigration. If, however, there is a prospect that the unemployed will by-and-by be provided with employment in the natural way, then the construction of Mr. Burns's Hôtel de Ville, or similar works, would be not only a means of doing a moral justice to the unemployed, but would be also indirectly doing good to the community. All we have to remember is, that it is doing good at a heavy expense, and that the expense is incurred at a time when the wealth which is to defray it is diminishing; and that our Hôtel de Ville would be a monument not only of our justice and our prudence, but also at the same time of our comparative poverty.

IV.—THE UNEMPLOYED AND LIMITATION OF THE HOURS OF LABOR.

Let us now pass to the question of limiting the hours of labor, which, as I have observed, is advocated on two grounds: firstly, the advantages which it would bring to the laborers generally; secondly, the solution it would afford of the prob-

lem of the unemployed. Our present concern is with the problem of the unemployed.

That the hours of labor should either by law or by custom have some limitation imposed on them, can be questioned by nobody—at all events in this country; nor can it be denied that by custom, law or combination among the laborers, some minimum daily wage should be ensured generally. Not even the most callous or covetous of English employers would avow the wish, or even entertain the wish, to increase his gains by employing labor on such conditions as those which prevail in Russia. In Russian factories men are worked from twelve to twenty hours a day; and the hands in the silk factories are paid only 3s. 6d. a week. No matter how much more productive a man's weekly labor might be as employed thus than it is as employed in England, there is no one in England who would not diminish its productivity, rather than not diminish its duration, and not increase its reward. Therefore, we may take it for granted that hours of labor should not exceed a certain number, nor wages fall short of a certain amount. On the other hand, it is equally obvious that hours of labor must not fall short of a certain number, nor the minimum wage be above a certain amount. If wages were increased 50 per cent. and the hours of labor reduced 90 per cent., before many months were past there would be no wages to pay. There is obviously a point at which, on any hypothesis, the laborers must suffer by either process being continued. If one hundred men produce each week values which equal £200, and receive in return £100 in wages, they might conceivably reduce their production by one-half without themselves suffering. But if their production is reduced further, they must all of them get less wages, or some of them get none at all.

These considerations must show how completely misleading are such generalizations as those of Mr. Sidney Webb, who states broadly that it is by no means certain that diminishing the hours of labor diminishes its productivity. He states this as a general proposition; whereas it can be true only within certain limits. Within limits, to diminish the hours of labor may not only not diminish, but may increase its productivity. But whether it

does so or no depends altogether on circumstances. If it does not diminish it, or if it increases it, this can be due only to two, or as some would argue, three causes. One is physiological, namely, the mental and muscular constitution of man. The exertion man saves by working a shorter time is, within certain limits, made up by increased vigor and intelligence. Thus eight hours may quite conceivably be equal in the result to nine. Another cause is scientific. Science may invent labor-saving appliances, which will make up, or more than make up, for any loss that might otherwise be occasioned. And finally there is a third cause, which Mr. Webb and others put forward—namely, that though, in a given country and at a given time, a reduction of hours might make each man produce less, it would by necessitating the employment of more men make the gross output of commodities as great as, or perhaps greater than, formerly.

Now the question for us is the question of our own country. We have to start with the hours of labor and the wages at present customary; and to ask if a shortening of these hours would restrict the output or not. There seems some difference, or even confusion of opinion as to this point, among the advocates of an Eight-hours Bill. But of one thing we may be perfectly certain—namely, that if, wages remaining the same, the same number of men suffice to produce the same amount of commodities, shortening of the hours of labor, let it benefit who it may, will be of no benefit to the unemployed. It will not put them in the way of earning the necessities of life. Mr. Champion, therefore, is perfectly right in saying that, if the restriction of hours were made up by efficiency of work, "men who vote for the measure will be grievously disappointed. Their object is not to get through the same amount of work in less time, but to restrict the output of labor for each individual, so that the amount may be spread over as many workers as possible." As to the bulk of the workers, indeed, Mr. Champion is wrong; for they would be clearly benefited by getting through the same work in less time. But as to the unemployed, he is obviously right. They would benefit only if fewer hours' work, on the part of these employed already, meant fewer results of work.

Mr. Sidney Webb, in his article on the subject in the *Contemporary Review* for December, 1889, somewhat obscures his own meaning by a certain ambiguity of language; for in some places when he talks of the hours of labor and their productivity, he means merely the labor of men employed at the present moment; in others he means quite a different thing—he means the shortened hours of labor demanded for these men, with the hours of labor added to them which it is proposed to provide for others. Thus in one place he is virtually telling us that if fifty men in nine hours produce values to the amount of one hundred pounds, it is by no means certain that fifty men will not produce as much in eight; and in another place he is telling us that under the same circumstances, it is probable that sixty men will produce values to the extent of one pound more.

This last is really Mr. Webb's contention. It is the fulcrum of his argument. Thus he and Mr. Champion mean practically the same thing. Mr. Webb means only that with a reduction in the hours of labor, more wealth may be produced in proportion to the number of people who happen to be in the country; they both mean that less wealth will be produced in proportion to the number of people actually employed in producing it. They mean that less will be produced in proportion to the cost of production; that there will be fewer superfluities produced in proportion to the consumption of necessities by the producers.

Now, just like the expedient of setting the unemployed to construct what is not wanted, this expedient of giving them a turn at the production of what is wanted would for a time solve the problem of how to give them a living. But in order to see the real nature and tendency of the measure, we need only suppose it carried out and applied so completely that the whole body of the people are reaping all the advantages expected of it, and that every one of them is in full employment. The following question is at once forced on us. Every one is employed now in the existing state of trade, but if trade declines, or remains stationary while population increases, what will happen then? A body of unemployed will again make their appearance, whose needs, if the principle we are considering is sound, will

have to be met by a yet farther reduction in the hours of labor. Thus whenever the country gets poorer in proportion to the number of its inhabitants, it is to be made poorer still in proportion to the number of its workers. More food is to be consumed in producing a diminishing equivalent for the food. If then this process is continued, the time will arrive, as I have said already, when more food is consumed in a year than is produced in a year; and thus we shall be face to face with the necessity for the only real remedy—some new commercial genius who shall discover some new industry, or else emigration.

The reduction, then, of the hours of labor, so far as it affects the problem of the unemployed, may keep the wound from mortifying until the real remedy can be applied; but it is not a real remedy itself. Shorter hours will not cure the evil, because longer hours did not cause it. The cause is the contraction of trade, either absolutely or relatively to the population: and the remedy is to diminish the population or increase the trade.

Still, shorter hours being for the moment a palliative, and palliatives being in some cases of the utmost value, let us concede that a shortening of hours would be desirable now. It is desirable to make the wealth of the nation less in proportion to the cost of producing it. It remains to consider what portion of the national wealth bears this loss. The part which bears it is precisely the same as that which bore the loss occasioned by municipal expenditure. Mr. Sidney Webb says that the loss would fall on profits or interest; and that, for a time, would be quite true; though after a certain point they would obviously fall on capital. But the question meanwhile is, on what part of profits would it fall—on the profits the rich are spending, or the profits they are saving? It is easy to see, by the reasoning applied in the former case, that it would fall on what they are saving; and thus virtually it would fall on capital even now. For, though in a certain sense it would fall on profits, it would fall on those profits which are in the act of being laid by as capital. The loss would in fact consist of so much capital intercepted.

The long and short, then, of the whole matter is this: A limitation of the hours of labor tends to give employment to the unemployed only so long as its productivity, hour for hour, is not increased by the process; only so long as it involves additional food being consumed in the production of the same product: and this additional food is taken from a store—from a granary—in which it would otherwise have been saved, not for present use, but for future.

As soon as this store is exhausted, a further limitation of labor-hours, in such a country as England, would no doubt reduce the production of luxuries; but every leader of Labor should lay this well to his heart, that to restrict the production of luxuries is a very different thing from distributing luxuries, and still more different from producing and distributing necessities. The logical result would be seen when no luxuries were produced at all; and then the laborers would see that, if they were ever to have any, the first step would be to increase, not diminish, their hours of labor, and painfully retrace the steps which with such light hearts they had been taking.

The practical moral to be drawn from these considerations is that limitation of the hours of labor is no doubt a means by which subsistence for the unemployed may be drawn from the savings of the wealthy; but that subsistence thus supplied is to be regarded as a palliative only; and the more valuable we think it to be on occasion, the more care we must take not to exhaust the sources from which it is to be supplied.

The whole matter is a question of degree; and till this is recognized it can never be dealt with wisely, and the Eight-hours Bill will be advocated and opposed with equal, and equally mischievous, extravagance.

I have dealt with it in this paper only as affecting the unemployed—that is to say, as a means of distributing necessities. Its effects as tending to distribute comforts or luxuries, or to give the working classes anything but another unemployed hour, must be discussed hereafter.—*Fortnightly Review*.

THE COMMON SENSE OF HYPNOTISM.

BY LLOYD STORR-BEST.

DESPITE the fact that Hypnotism has now definitely conquered a foothold among the sciences, and as a valuable therapeutic agent "given its proofs" in conclusive abundance, it is still thought by the general public to be a subject wrapped in considerable mystery, while its phenomena, though admittedly genuine, are held inexplicable. It would appear to be little known, even by medical men, that these phenomena not only harmonize with the best teaching of modern physiological psychology, but are rendered by it *à priori* probable. It is true that, owing chiefly to the inadequacy or uncertainty of our physiological and psychological data, we are yet unable to explain fully some hypnotic problems; but it must be borne in mind that unsolved problems are inseparable from, and essential to, the life of any growing science—that without them progress is impossible. In this paper, after a brief description of the therapeutic and surgical uses to which suggestive hypnotism is put, I purpose to show *how*, in many cases, results are achieved, and to hint, if nothing more, at the mental and physical *modus operandi* of hypnotic treatment. To detail minutely its multifarious applications in modern medicine would be tedious, seeing that the mere list of those diseases in which hypnotism has been found serviceable would be wearisomely long. Suffice it to say that the greatest success has been achieved in the relief of pain, and in the treatment of so-called functional neuroses, maladies whose organic concomitant has not yet been discovered, such as neuralgia, chorea, writer's cramp, etc., while more courageous practitioners have not hesitated to employ "suggestion" in the case of genuine organic disease, and have obtained results altogether unanticipated. Before proceeding further let us consider the primary condition of hypnosis, that condition held by the general to be almost uncanny in its abnormality; let us contemplate the causes by which it is induced, and then decide whether or no such a state with given antecedents might not have been predicted *à priori* by one acquainted with the elementary facts of mental science.

Now, on reflection, it will at once be evident that the "pabulum" of thought is sensation, that without the constant rain of sensorial stimuli intellectual activity must come to an end. Once cut the mind adrift from all impulses from the outer world, and, of necessity, all volitional and psychical processes soon cease. In illustration of this fact Michael Foster, in his *Text-Book of Physiology*, adduces the case of a patient whose almost only communication with the external world was by means of one eye, he being blind of the other eye, deaf of both ears, and suffering from general anesthesia. The moment the sound eye was closed he fell asleep. A German professor, too, has recorded the case of a boy similarly afflicted, who remarked, *à propos* of the closing of his one useful eye, "Wenn ich nicht sehen kann doch ich nicht bin"—"When I cannot see I cease to exist." As a corollary to this proposition it will follow that the general mental activity varies in the direct ratio of its external stimulus. Again, *we are only conscious of that to which we attend*, attention, of course, not being a special faculty but a mental state; the spontaneous or voluntary adjustment of the mind to a particular part of its environment; and this adjustment to a group of impressions may, as its intensity grows, become *fixed*, and preclude the possibility of any but the most violent sensorial stimuli unconnected with that one group, passing the threshold of consciousness, although these unfelt stimuli may yet result in appropriate actions. Of this there are many familiar examples. Newton, for instance, who would eat his dinner like an automaton, with eyes apparently unseeing, as he continued the elaboration of his theorems, rarely knew whether he had dined or not. Hack Tuke tells the story of a young surgeon, profoundly engrossed by some abstruse subject, who was interrupted one night in the midst of deep study and requested to attend to the case of a woman who claimed admission to the hospital. He saw the woman, made the usual examination, and inscribed her name; all this, however, without consciousness, for the next morning he was

most surprised at her presence and had absolutely no recollection of the incident. But without recurring to the records of others, every one may verify this principle by considering his individual experience. It has happened to most of us, I should imagine, to walk down a street pondering on matters of State and *totus in illis*, without seeing the faces of other wayfarers, although their images strike upon our retina, without hearing their voices, although they beat upon our ear, and thrill along the auditory nerve to the brain, while all the time, unconsciously, the accurate co-ordination of our muscles continues, so that we do not jostle others or wander from the foot-path. Are we engaged in earnest conversation? The clock ticks, the fire sputters and crackles, others around us are talking too; yet we hear none of these things, and are conscious only of the words of ourself and friend. Of the myriad impulses, then, that ceaselessly impinge upon our brain, few rise to consciousness, *those only to which we spontaneously or voluntarily attend*. Again, although under normal conditions we do not long attend to the same set of circumstances; although the mind, tired of a subject, spontaneously leaves that subject and passes over to the contemplation of some other which presents points of interest, yet if the attention to one idea (or group of ideas) be strained to the point of fatigue, such attention may pass altogether beyond the control of the will, the whole mind may become filled with that idea, and all sensations unconnected with it pass unperceived—in other words, a “cramp” of the attention ensues. Just so a muscle under normal conditions is not held long contracted, but contracts and relaxes according to voluntary stimulus, yet at times, when unduly fatigued, falls into a state of continued contraction, over which the will has no control.

From the very earliest ages this phenomenon has been empirically known. Witness the Indian Fakirs and Yogis, the savage at the stake, the Christian martyrs, and the Omphalo-psychics of Mount Athos, who used to produce this spasm of the attention by the fixed contemplation of the navel, until they fell into the so-called “ecstasy” and were completely shut off from the outer world. Carpenter tells us, too, that but a little while ago,

before the introduction of chloroform, patients would endure the most painful operations without flinching, and afterward declare that they had felt nothing, having by a powerful effort of attention concentrated their thoughts upon some subject by which they had been completely entranced. In the curious auto-hypnotization of Mr. North, as related by Hack Tuke, we are told that the former produced experimentally this condition of insensibility to external stimuli, by keeping his gaze fixed upon one object and concentrating his attention first upon bacteria, which he had recently studied, and then upon one particular form of bacterium, and that gradually the voices of those in the room seemed to fade into the distance together with the whole external world, which feeling was shortly followed by a complete mental blank.

Again, under normal circumstances, our memory of an event varies as to strength directly with the amount of attention we pay to it. The stronger the impression on our consciousness the more lasting is it, and the more readily recalled. But in order to call up some past idea the mind must have some present idea which is in some way allied to the past one—must have, as it were, some clew to guide its search. The mental continuity must be unbroken. Now, in the case of attention strained to its highest pitch of intensity, so that there is unconsciousness of *everything* but one group of ideas, that group is totally disconnected from the normal environment, has no mental setting in that environment, and can be suggested by nothing in that environment. One idea of the group may suggest another of the same group, but that is all. To make this clearer, suppose A.'s attention to be “cramped” to such an extent that he is unconscious of everything but one set of ideas. B. touches him, and speaks to him. A. neither hears nor feels. It is obvious when A. regains his normal consciousness B.'s voice and touch cannot suggest to him the “one set of ideas;” and so forth, for the rest of his normal environment. *So that A., leaving his mono-ideal condition, will not be able to remember anything that occurred in it, not even that to which his attention has been most powerfully directed.* If this should appear to any one a “hard saying,” let him try to remember, say, a name which

he has forgotten, and it will at once be evident to him that he will only be successful through remembering the contiguous associations of the word, the circumstances which attended his utterance or thought of the name, or the hearing it from another. I cannot remember where I last saw John Smith, nor shall I be able to do so until something "crops up" in my present stream of ideas which is allied to and suggests some of the circumstances under which I did see him. Enough has been said, I think, to justify our acceptance of the following postulates:—

I. That general consciousness varies directly with external stimuli.

II. That general consciousness varies inversely with the intensity of attention upon one idea or set of ideas.

III. That attention may be so "strained" as to pass beyond the control of the will and to destroy the general consciousness.

IV. That attention upon one idea or group of ideas may be so great as to prevent that group being remembered in the normal mental condition.

For the synthesis of hypnosis let us add one other well-known and generally admitted law.

V. That an idea tends always to generate its actuality either as sensation or action.

What is meant by this is that the idea of an action or of a sensation tends to result in that action or sensation, and would inevitably do so were it unchecked, uninhibited by other ideas. That the nervous processes attending the real and ideal phenomenon differ only in strength. For example, when I think of moving my hand, the same nervous tracts are affected as when I actually move it, but the nervous tension in the former case is weaker than in the latter, and may not, owing to the antagonism of other ideas, result in actual motion. Once, however, let an idea obtain undisputed possession of the mind to the exclusion of others, and it inevitably generates its actuality. The general laws of force hold good in psycho-physiology. An idea has always "its full effect in its own direction," and we might with justice consider any action as the result of the "composition" of many ideas, some tending for, others against, its performance. This principle lies at the bottom of

that tendency to imitate which is common to the whole animal creation, and adequately accounts for suicidal epidemics and criminal infection in general. Thus, when a "shocking" case of suicide has been reported in all its ghastly details it is by no means surprising that an exceptionally impressionable mind should be seized and held by the *idea* of suicide, which idea works itself out with a fatal certainty when it has gained full possession of the poor creature's brain. "If ever you should wish to cut your throat," jokingly said the professor to a student, "don't bungle it as this poor fellow has," and pointed to a man who had been brought in with his head nearly sawn off. The professor proceeded to demonstrate with great earnestness how all-sufficient for the purpose was a small nick in the carotid artery, and next day the student was accordingly found with his throat cut in the most neat and artistic fashion.

The fact that an idea may be swelled to perception or sensation is well exemplified by a case vouched for by the eminent physiologist, Bennett. A butcher, in the act of placing a heavy piece of meat on a hook above his head, slipped, and was held suspended by the hook, which had passed through his upper arm. He was immediately released, and carried in a half-fainting condition, groaning with agony, to the nearest surgeon. As his coat was being removed, shrieks were forced from him by the intense pain. It was discovered, however, that he was wholly uninjured, the hook having passed through the coat only, without even grazing the flesh! That many have died from diseases which were purely ideal *ab initio*, such as imagined hydrophobia, is beyond the range of doubt. Indeed, not long ago, several distinguished physicians were thus led into the grave error of considering hydrophobia in every case to be psychical in its origin. Upon ideal perception we need not dwell, as we find an instance of it in every hallucination, in every vivid dream, and it is well known to be a frequent source of error in human testimony.

And now, after these lengthy prolegomena, I would ask my readers—if any yet remain—to consider briefly the bearing of the principles we have discussed upon hypnotic phenomena. Let us treat the hypnosis synthetically, and attempt to de-

velop it in an imaginary patient by the application of laws which govern all mental manifestations.

In the first place, in order to obtain the minimum of general intellectual activity, we shut off, as far as we can, impulses from the external world. We place the patient in a position of rest and comfort that auditory and tactile "stimuli" may be as small as possible, while we minimize ocular impressions by causing him to regard fixedly a single point of light, or by closing his eyes. At this point our patient is probably thinking with considerable vigor; he wonders what is going to happen to him, analyzes his sensations, compares them with what he expected to experience, while his general mental attitude is distinctly unfavorable to the lethargy we wish to produce—an attitude of curiously critical introspection. One hostile element has, however, in great measure disappeared. Thought, whose very essence is the recognition of differences, is no longer stimulated by an ever-varying environment, the consciousness is diminished in *extent*, and the attention ready to leap forward to the operator's words or actions. With what weapons shall we attack the residual mental activity maintained in great measure, not by present sensation, but by those regenerated by memory? We know that in such degree as we can bind attention to one set of ideas, will general consciousness and power of attention to other things diminish. We know, too, that an ideal sensation tends to become actual, and fails to do so only when impeded by other affections of consciousness. Thus have we two strings to our bow. We attract our patient's attention, and hold it riveted by the vivid verbal development of a mental picture of sleep. As our delineation increases in vividness and emphasis, his attention becomes more and more "cramped," introspective criticism changes to intense conviction, as one by one suggested sensations become actual, as his limbs *do* become heavy and numb, his eyelids weary, and his brain drowsy and confused. At this point our patient is entrapped in a vicious circle. The more he is struck by the transference of suggested idea into sensation, the more is his attention engrossed, and conversely, the more concentrated his attention upon the suggested idea, the more complete and rapid the transforma-

tion of that idea into its actuality. Finally, the patient's attention passes altogether beyond the power of the will. He *cannot* attend to anything but the operator's words, and is consequently unconscious of everything else. He is now in a mono-ideal condition, and if we wish to use so extremely vague a word, has an abnormal *personality*. And here a few words concerning our patient's condition, and the phenomena consequent upon it. In the first place, although the tract of consciousness has been enormously narrowed, and is dependent for depth and extent upon the operator, the patient can with no propriety be called *unconscious*, nor must it be thought that the connection with the normal environment is irrevocably broken, for, just as we should expect from theoretic considerations, he may be made to remember during hypnosis past experiences with great vividness, if the operator bridge the gulf between his mono-ideal and normal condition by reference to some event in past time, thus, of course, supplying the necessary link, the associational clew which suggests the attendant circumstances, of that event. Conversely the "awakened" patient's recollection of words spoken and actions performed during his "sleeping" condition may be revived by appropriate suggestion, which again is in entire accordance with our psychological postulates. Heidenhain, the great German physiologist, having hypnotized his brother, recited to him during the hypnosis a line from Homer, then "awakened" him and asked whether he remembered anything that had been said to him during his "sleep." The answer was "Nothing whatever;" *but* when Heidenhain said, "Think! Homer, flight," the brother, with great slowness and hesitation, as though recalling an elusive dream, gave the line recited: "Πῶλον σε ἔπος φηγέει ἔρκος ὀδόντων." Upon this and similar phenomena I need not dwell, for it will be obvious to the reader that the broken continuity between the two states of consciousness can be re-established by suggestion in numberless ways. Considerations of space unfortunately preclude anything approaching a thorough examination of even the characteristic phenomena of hypnosis, and I must therefore appeal to the reader's intelligence for the particular application of the general principles I have tried to es-

tablish. Perhaps, however, before finally leaving this part of the subject, a word should be said concerning *post-hypnotic* suggestions, which, to the profane, savor somewhat of the supernatural. Let us take a concrete example:—I tell a person deeply hypnotized that to-morrow, when he sits down to breakfast, he will be attacked by a violent toothache; that he will get up and walk about for a short time, and that the pain will then leave him. All this happens at the time indicated, with mathematical precision. Now, it is obvious that, had we suggested a *present* action and feeling, we should have had a simple case of the operation of the general law embodied in our fifth postulate, the ideal feeling and action inevitably becoming actual; but it is at first difficult to understand why this should occur after the patient has regained his normal consciousness. The difficulty vanishes, however, when we recognize that the idea "*breakfast to-morrow*" is part of his hypnotic consciousness, and that, therefore, as we have previously explained, the whole of his hypnotic mental condition at the time of the suggestion, with its ideas of toothache and walking, etc., will be associationally recreated by "*breakfast to-morrow*," and with it the extreme attention necessary for the translation of those ideas into actuality. Thus far in my treatment of the subject, I have of set purpose avoided discussing hypnosis from a physiological standpoint, partly because the theories involved are too complex, and would necessitate the use of terms too technical for a magazine article, and partly because I hold our knowledge of cerebral functionation less sure and stable than that which we possess of psychical processes. I consider, too, that in the elucidation of phenomena primarily psychical, our first efforts should be directed toward the explanation of them as mental; that then, and not till then, should we endeavor to formulate their physiological correlations. We have at length, however, reached a point where reference to physiological data becomes unavoidable, for it has yet to be shown in what way this condition of hypnosis can aid us in the treatment of disease. Upon its employment as a means of inducing surgical anaesthesia I need not dilate, as nothing in the way of explanation will be needed by those who have followed me so

far. It must not be thought, however, that there is any immediate prospect of hypnotism superseding chloroform, ether, or nitrous oxide, for compared with these it labors under disadvantages. It is of no service, generally speaking, in emergency cases, as the patient needs preparation before an operation, and it is by no means so easy and certain of application. Still, for those who have sufficient time, and are susceptible enough, hypnotism is immeasurably the best of anaesthetics; as also for those to whom it is unadvisable, owing to heart or lung affections, to administer chloroform or ether.

Why should hypnotism be of use as a therapeutic agent? We know, of course, that it is, but why? Unless some reply to this question be forthcoming, hypnotic practice must needs be as empirical as the medical treatment of the Middle Ages, and its results as uncertain as those of the modern exhibition of drugs.

In the first place, it is patent that by means of hypnotism we can act *directly* upon morbid mental conditions, being able by reiterated suggestion to create or destroy any fixed idea or habit. Thus the dipso-maniac, thoroughly hypnotized, and inoculated, so to speak, with the horror of intoxicants, positively loathes the sight of alcohol, and feels no longer the terrible craving which formerly overpowered his most determined resistance. The morphino-maniac is made to cease his pernicious indulgence in morphia, and escapes, too, the awful Nemesis that under normal circumstances awaits the discontinuance of the drug. In incipient melancholia, the persistently recurring ideas of suicide may be "*suggested away*," and the patient rescued from the vicious circle wherein morbid mental and bodily conditions perpetually act and react. In brief, the prejudicial idea is removed, and in its stead one tending healthward is branded indelibly, as it were, upon a mind rendered impressionable as soft metal by the fierce flame of attention at its hottest. The hypnotist, then, can directly "*minister to a mind diseased*," and break habits injurious to health. But it is not through evil habits alone that the mind reacts prejudicially upon the body, by inspiring actions which are essentially harmful. From the earliest times, the ceaseless reciprocal inter-play of physical and mental conditions has been recognized; so much so,

indeed, that in all ages we constantly find psychical remedies prescribed for bodily diseases, and conversely special drugs for various forms of mental derangement. The ancients recommended hellebore for insanity; the homœopaths of the last century were prepared to cure those afflicted with love (!), hatred, despondency, etc., by such medicines as aconite and pulsatilla. On the other hand, the great influence of emotional conditions upon organic function has been universally admitted from Aristotle downward, and the efficacy of belief to produce the physical result anticipated has been again and again emphasized. Thus Paracelsus, writing in the sixteenth century, distinctly states it as his opinion that the marvellous cures effected by amulets, charms, and the like, depended not upon any virtue inherent in these things, but entirely upon the belief in their efficacy. Although in modern medicine this principle has been dimly recognized and tentatively employed by the more thoughtful of the profession, who have relied as much—perhaps more—on their power of inspiring hope and cheerfulness as upon the resources of the pharmacopœia, the results obtained in this direction have naturally been most uncertain, depending, as they do, upon the physician's powers of simulation and knowledge of the patient's mental idiosyncrasy. Contrast with this empirical application of the "medicine of the imagination," the precision of hypnotic treatment, by which, granted a sufficiently deep hypnosis, we can with *certainly* place the sick man in that mental atmosphere most favorable to recovery. If he be haunted by melancholy ideas, those ideas can be exorcized and pleasant thoughts substituted. If he lack hope it may by suggestion be instilled, and his mind made to dwell with cheerful expectancy upon the symptoms of returning health. Lastly, it remains to be considered whether hypnotism can be of any service in genuine organic disease. Let us examine the "data" bearing upon the question.

We have mentioned above the intimate connection which obtains between bodily and mental states. That such connection was much closer than was hitherto suspected has been recently proved by the researches of modern scientists. The experiments of Richet, Mosso, and Stricker conclusively demonstrate that *every* psy-

chical state has its dynamic correlate, attended by objective phenomena, and that every change of mental condition is accompanied by specific vascular modifications. For example, as Stricker has shown us, there can take place no mental presentation of a word without appreciable movement in the muscles used in its articulation, the very conception of the word as spoken seeming to depend in some way upon a closed circuit of nervous impulses to and from those muscles. We are all familiar, I suppose, with the fact that steady attention directed to a given part of the body will at length result in some sensation, such as warmth or tingling, in that part; but only recently has proof been given by definite experiment and actual measurement that such attention is invariably accompanied by a physical change in the part—namely, an enlargement of the blood-vessels which supply it. This we find well exemplified by the phenomenon of blushing. An individual, much stared at by others, turns his attention to his face; the moment he thinks of it he feels a sensation of increased warmth, the blood-vessels relax, the blood supply is increased, the skin reddens. As Bain has pointed out, too, the area of the blush corresponds to the parts of the body usually exposed to the public gaze. This organic influence of attention likewise explains both the "stigmata" of history and those experimentally produced under hypnosis. The bleeding from the hands and feet which occurred in the well-known case of St. Francis d'Assisi was undoubtedly, I think, the result of the "determination of blood" to those parts by the rapt imagination of them as bearing the same marks as the Crucified Christ. Now, in the case of a hypnotized patient we are enabled to turn the *whole* of the attention to any part of the body and bind it fast by creating there, through suggestion, a continuous sensation, of which the inevitable result will be an increased flow of blood through the arteries supplying that part. Indeed, we may go so far as to create a pathological condition and set up inflammatory processes, of which the starting point is, of course, always congestion of the blood-vessels differing not at all in nature from the emotional congestion of blushing, and produce a blister, followed by suppuration, etc.

In conclusion, then, does it not seem

likely, in the light of these facts, that we should be able by means of hypnotic treatment to modify morbid processes, to arrest structural degeneration, and to awaken

to more vigorous life the diseased part by improving its nutrition through an augmentation of its blood supply? *—*The New Review*.

THE "NEW" PSYCHOLOGY AND AUTOMATISM.

BY ANDREW SETH.

ALL who take an intelligent interest in the movement of contemporary thought—whether it be philosophy more strictly so-called, or the advance of science—are aware of the great activity which has been shown of late years in the department of psychology. Till within the last half century, or thereabouts, psychology had been an appanage of the philosophers, and it cannot be said that they neglected this province of their dominion. In this country in particular—in England and Scotland—psychology has formed the bulk of our philosophic treatises; and Hobbes, Locke, Berkeley, Hume, Hartley, Dr. Thomas Brown and the Mills, Reid, Stewart and Hamilton, must always remain among the classics of the science. But it may be admitted that their work often shows a crossing of interests and of points of view. Questions of logic and theory of knowledge were mixed up with the more properly psychological inquiry. And at other times, the investigation was subordinate to the establishment of some metaphysical theory. The distinguishing note of most recent psychology has therefore been insistence on the separation of psychology from philosophy, and on the maintenance of a purely psychological standpoint. In psychology, it is argued, we have a realm of phenomena, a moving world of causes and effects, which it is our business to investigate in the ordinary scientific way, with all the resources of observation and experiment, and without any *arrière pensée* as to the bearing of our results on the ultimate problems of philosophy.

No advice could be more excellent; disinterestedness is the very watchword of science. But it seems to me that a good many of those who talk most loudly of "the new psychology" are exposed to the usual danger of reaction. The rise of this "scientific" psychology, as it also calls itself, connects itself with the great development of science, especially of the

natural sciences, which has marked the present century. The growth of biology and physiology has naturally reacted powerfully upon the whole conception and method of psychological investigation. And it is worth observing that the general scientific movement referred to, coincided, especially in Germany, with a revulsion against the idealistic speculation which marked the beginning of the century. Probably the two were partly connected as cause and effect, the hunger for hard facts and patient detail-work being a healthy protest of the human spirit against over-hasty and over-confident attempts at universal synthesis. Any way, the new psychology, as I have said, has its roots in this movement. And therefore its absorbing concern was and is to keep itself clear of metaphysics, and of every hypothesis which it imagines to savor of that region of mysteries. To a large class of scientific, and would-be scientific thinkers, metaphysics is what clericalism is to the French Liberal; it is the enemy to be fought at all points. These two characteristics of this militant psychology—its renunciation of metaphysics and its affiliation to biology are concisely put by Ribot, one of its standard-bearers: "The new psychology differs from the old in its spirit: it is not metaphysical. It differs in its aim: it only studies phenomena. It differs in its methods: it borrows them as far as possible from the biological sciences. Consequently the sphere of psy-

* Two years ago the writer had occasion to treat a patient hypnotically for enlarged glands of the neck. The morbid condition was chronic, and had been stationary for many years, obstinately resisting every variety of medical treatment. Cure was effected, and I am assured by the patient that no relapse has yet occurred. In this instance it was impossible to attribute the result to a fortuitous coincidence, for on several occasions when hypnotic treatment was interrupted for a day or two an aggravation of the condition ensued.

chology specifies itself ; it has for its subject nervous phenomena accompanied by consciousness."

Hence, in shaking the dust of metaphysics off their feet, the new psychologists accepted from Lange as their badge the somewhat paradoxical motto, "Psychology without a soul." As Ribot puts it triumphantly : "The soul and its faculties, the great entity and the little entities, disappear ; and we have to do only with internal events—events which, like sensations and images, are translations (so to speak) of physical events, or which, like ideas, movements, volitions and desires, translate themselves into physical events."

In this respect, however, the new psychology was not so original as it perhaps imagined. The attempt to dispense with a soul had been systematically made by Hume and the Associationists long before the second half of the nineteenth century. It was not simply the determination to discard the soul that stamped the new movement. The physiological method is the really distinctive mark of the new departure, and "physiological psychology" is the name very generally given to the recent developments of "psychology as a natural science."

Let me say at once that it is far from my intention to object to this intimate linking of the psychological and the biological. The physiological method of study does indeed promise, as its votaries say, to be most fruitful in its application. It alone furnishes the basis for introducing experiment into mental science ; and though it can only lay siege, as it were, to the outworks of the mental citadel, to the phenomena of sense-perception and movement, and a few of the simpler aspects of the mental processes, yet the amount of patient detail-work accumulated in these departments, and the light thrown on other departments by the scientific study of abnormal mental states in their physiological relations, are already enriching the science in no ordinary degree, and transforming the very look of our psychological text-books. The philosopher would be singularly cross-grained who did not welcome this accumulation of material, and who did not congratulate himself that all this detail-work was taken out of his hands by those who, from their training and aptitudes, can do it so much bet-

ter. But he will reserve to himself as philosopher the ultimate verdict on the validity and sufficiency of the theory on which physiological psychology proceeds. For it is the most infeasible function of philosophy to act as critic of the sciences. The philosopher has to examine the conceptions which each science accepts without criticism, and on which it proceeds in working out its results ; he has to point out the limits or conditions within which the conception or theory holds true. In other words, he has to restrain the ardor of the specialist who would build upon his results a philosophic theory of the universe, by showing that the results which the investigation seems to establish are really involved in the conceptions or standpoint from which it started, and are therefore in no sense to be accepted as an independent proof of the theory. I propose to show that this is pre-eminently the case with the main thesis of the "new" psychology—at least in the hands of its most advanced representatives. In abjuring the soul, and limiting itself to the concomitance of physical and psychical events, it is really dominated by a very definite theory which dictates the character of its results beforehand.

The result supposed to be proved, it had best be stated at once, is the complete parallelism of the bodily and the mental—the denial, therefore, of any real causality to consciousness, which remains the inert accompaniment of a succession of physical changes over which it has no control. In a word, the result is the doctrine of human automatism. The doctrine of conscious automatism has been ventilated a good deal since 1870, or even earlier, by Mr. Shadworth Hodgson, Professor Huxley, Professor Clifford, and others ; but though, no doubt, definitely embraced by a few, it is safe to say that by the most it has been rather talked about and toyed with than fully conceived, much less believed. The doctrine has, however, been recently expressed with great clearness and force by Dr. Münsterberg, who is perhaps the ablest and most stirring of the younger generation of physiological psychologists, and one whose theories have been much discussed within the last two years, both in England and on the Continent. He teaches in the most unequivocal fashion that consciousness is simply, as he calls it, a "Begleitererscheinung," a concomitant

phenomenon or inactive accompaniment of a series of mechanical changes.

Münsterberg's work, which has appeared in a succession of pamphlets since the year 1888, takes largely the form of a polemic against Wundt's doctrine of Apperception. Wundt, it is hardly necessary to say, stands at the head of the physiological psychologists of Germany. His "Physiologische Psychologie," first published in 1874, remains, in its later editions, the chief standard work on the subject; and the psychological laboratory established by him in Leipzig in 1879 was the first of its kind, and is still probably the chief centre of experimental work. But although he may thus fairly be called the father of the whole movement, inasmuch as he has organized experimental psychology, and induced the world to accept it as a new science, Wundt has never lent his countenance to the automatist conclusions which the young bloods are now drawing from their experimental labors. His doctrine of apperception is far from clear, and its precise meaning has given rise to considerable controversy; but apperception seems to correspond in the main to what Dr. Ward calls attention. If the direction and fixation of attention is a centrally initiated function, then it may be held to be the essence of what we mean by the activity of the subject. If we possess such a selective power, then all is not fatally determined; we count for something in directing the course of our own lives. Wundt's doctrine of apperception seems to amount to this, especially when it is taken together with the general philosophical position which he has elaborated in his recently published "System of Philosophy." At any rate, it is certain that he has been attacked by the upholders of thoroughgoing mechanism as an inconsistent and retrograde thinker for attributing activity to the subject. This explanation was necessary for the right understanding of Münsterberg's work. His first pamphlet in this controversy was "Die Willenshandlung," an analysis of the act of will, published early in 1888. This was followed in 1889-90 by three instalments of "Contributions to Experimental Psychology," in which, after an elucidation of principles, he endeavored, by a series of carefully devised experiments, to assimilate the apperceptive process to the type of reflex action and reduce

the whole conscious action to a play of association. Finally, he published last year an introduction to the study of psychology ("Über Aufgaben und Methoden der Psychologie"), in the course of which we get a restatement of his own position. The standpoint does not vary throughout the different expositions, and therefore, though illustrating freely from all, so far as they throw light upon my points, I will draw chiefly from the first and fullest statement the very acute analysis of the act of will.

The treatise is divided into three parts, the first treating of the voluntary act as "movement-process" (*Bewegungsvorgang*); the second treating of it as a phenomenon or appearance in consciousness (*Bewusstseinserscheinung*); and the third, which is intended to combine the results of the preceding parts, considering the act of will in its totality as "conscious movement" (*bewusste Bewegung*). Münsterberg makes a start from the well-known saying of Kant: "That my will moves my arm is no whit more intelligible to me than if any one were to tell me that it could hold back the moon in its orbit." He accepts the problem as thus indicated: How does my will move my arm? The first part of his treatise deals with the voluntary act exclusively from the physiological side, and analyzes it into a series of movements. We may say analyzes it necessarily into a series of movements, for the succession of bodily movements, whether visible movements of the limbs or molecular movements of the nerves and brain, are all of the process that could by any possibility be seen; and reduction to processes which are intelligible in the sense of being pictorially presentable, is the postulate of explanation which he lays down. There is not much that is peculiar to Münsterberg in this first section, the same has been vividly put by many writers; and in a sense this purely physical explanation is true from the physiological side, though I think it is possible to show that even from the physiological standpoint, it is not the whole truth. Meanwhile it is enough to note the purely mechanical point of view and the explicit reduction of all physiological facts to physico-chemical processes. Passing to the more characteristic psychological analysis contained in the second part of the treatise, we find that Münsterberg is at some

pains at the outset to define the problem he sets himself. It is purely a problem of empirical psychology, and does not raise the metaphysical question as to the ultimate ground of phenomena, or as to how consciousness exists at all. His investigation seeks "only to establish the conscious phenomena which are peculiar to the voluntary act" (p. 56). "Wherein consists the content of our inner experience, empirically given to each of us, which we designate will" (p. 60). Or, again, "For our investigation, limited as it is to facts, the will is a phenomenon like other phenomena; and accordingly we have only to ask in what it consists, what regularly precedes it in consciousness and what follows it" (p. 61). This strictly empirical character of the inquiry has one important consequence according to Münsterberg. "Modern psychology, it is well-known," he proceeds, "designates the ultimate irreducible constituents into which the content of consciousness (*Bewusstseinsinhalt*) may be analyzed as sensations, ascribing to sensations a quality, an intensity, and a tone of feeling which expresses their relations to consciousness. But if sensation is the element of all physical phenomena, and if, on the other hand, the will, so far as we are concerned with it, is only a phenomenon of consciousness (*Bewusstseinserscheinung*) it follows necessarily that the will, too, is only a complex of sensations." *

Having thus marked out his goal beforehand, Münsterberg proceeds to the actual analysis of the facts. He analyzes, first, what he calls the inward activity of will—i.e., the voluntary guidance of the train of thoughts in the form of attention; and, secondly, the outward activity of will in bringing about muscular contractions. Under the first head, then, the question is: "Wherein consists the inner activity in the direction of the current of our ideas? or, more precisely, What must be the nature of the feelings present in consciousness if they are to produce in us the feeling of inward freedom, of active will?" This more precise way of putting the question, it will be observed, is not without

significance for the nature of the answer which it is to elicit. Let us get to the details, however. Four cases of the inward directive activity of will are analyzed by Münsterberg: (a) the case of voluntary recollection, or trying to remember; (b) the exercise of choice between different ideas presented, the concentration of attention upon one of these, and its retention in the field of consciousness to the exclusion of the others; (c) the case of logical thinking or reasoning, in which I pass along a definite and apparently self-directed path from premisses to conclusion; and (d) the case of simple attention to an idea or precept which presents itself in consciousness. The analysis is most ingenious in the case of voluntary recollection and logical thinking. How is voluntary recollection distinguished from involuntary reminiscence? If a fact, *a*, has been connected in experience with *b*, and the appearance of *b* calls up in consciousness the idea of *a*, I do not attribute to myself any voluntary action in the matter; I take it as an instance of the ordinary play of association. "On the other hand, when I cannot remember *a*, when I seek it in my memory, recall to myself the place where I saw it, the connection in which I heard it, and when at last *a* actually emerges in consciousness, then it was plainly my will (we say) which dragged to light the object of my search" (p. 64). How does the case stand, however, when more closely analyzed?

"If I try to remember *a*, if I seek it in my memory, *a* is, of course, not itself present in consciousness, but what I do perceive does unquestionably correspond in content with *a*. So long as I have not found *a*, I feel, it is true, only an *x*, but I feel this *x* in a series of relations, such that *x* can be only *a* and nothing else. I try to remember a word. In doing so, I see in memory the passage where I read the word, I remember the moment at which I heard it, I know exactly, too, the meaning of the word; but the word itself is not present to me. At last it rises in consciousness. Can it be denied that that word was already given in its full content (*vollinhaltlich gegeben*) in the series of ideational relations which I remembered? No doubt it was represented in consciousness by entirely different qualities; it was given in its relations to other things, whereas it is afterward distinguished by its own characteristics. But the two states of consciousness coincided with one another as to their inner meaning" (p. 67).

The only peculiarity, accordingly, which Münsterberg is prepared to admit in this

* The italics are Münsterberg's own. It need hardly be pointed out that this astonishing invocation of "modern psychology" begs everything which is afterward put forward as proved.

process, as contrasted with a case of involuntary association, is that "the clear consciousness of the idea *a* was preceded by another state of consciousness which, in respect of its content, already contained the idea *a*." He italicizes this as the standing mark of voluntary control of our ideas. Reasoning is distinguished, he argues, by the same characteristic. The premisses already contain the conclusion, or, to put it more pointedly, the whole process of thought is determined from the outset by the idea of the end to be reached. In the second case, mentioned above, where several ideas are presented, and we purposely retained one of them, *a*, the same thing manifestly holds. "Here," says Münsterberg, "there is no need to prove that this *a* was in consciousness beforehand. The reasons why just *a* and not *b* remained in consciousness are admittedly only the occasions or motives of the voluntary act; they remain therefore unnoticed here, the remaining behind is itself the achievement of the will (*Willensleistung*)." The same line of argument explains his fourth case, the case of simple attention to any idea presented in consciousness. "In the first moment in which a sensation emerges in us the perception appears involuntary, because the *a* was till then preceded by a *not-a*; in the second moment, however, it appears to us as intentionally retained, just because we were already conscious of it in the preceding first moment."

The solemnity with which this is propounded as a serious account of the facts in question would be too impudent if it stood alone; but Münsterberg hastens to supplement it by reference to the bodily sensations which usually accompany acts like attention and selection, or efforts of thought and memory. He cites the admitted fact that there are feelings of innervation in the sense-organ when ideas of that particular sense are present in consciousness for any length of time. Whenever there is a strain of attention, other sensations are usually present, such as feelings of tension in the skin of the head, for example, and the knitting of the brow in trying to remember or in thoughtful consideration. Nor are such feelings confined to the head; they may be traced all over the trunk, and even in the extremities. Münsterberg does not hold, however, that such feelings of innervation

necessarily accompany all voluntary activity. In reasonings or calculations that proceed without any particular difficulty, for example, they are not observable; but just in these processes, he hastens to add, we are not specially conscious of our voluntary activity. It is only in subsequent reflection that we class them as acts of will, and in so doing we fall back upon the criterion already signalized—namely, the pre-existence of the idea in the preceding moment of consciousness. He concludes the first part of his psychological investigation thus:

"The inner will has thus shown itself on analysis to be a very complicated group of ideas (*ein sehr mannigfaltiges Vorstellungsbilde*), composed of certain definite series of ideas, *plus* feelings of innervation. Nothing unknown, nothing which stands over against the ideas as something heterogeneous, has been found, as we saw, in the first group of ideas or sensations; it only remains, therefore, to ask whether any mysterious element is concealed in these innervation processes. Should these also be found to be a mere complex of sensations, the inner will would then be reduced to a series of sensations, each one of which is of the same order as blue, hard, sweet, or warm" (p. 73).

The consideration of the feelings of innervation cannot, however, be conveniently separated from the external action of the will upon the body, and so we pass to the second head of this psychological investigation. The stock example will suffice—I lift an object with my hand.

"But the result of this experiment is usually a very poor one: the feeling of will which I seek (*die gesuchte Willensempfindung*) I cannot discover in myself. I perceive just a slight feeling of tension in the head. For the rest, I am only conscious that I actually execute the movement—viz, bending the joints of the elbow and hand; I feel no special impulse to the movement, lying in time between the theoretical intention and the practical execution of it. It is quite different, however [he proceeds], when I do not simply have the intention of lifting an object and carry this out, but slowly analyze the movement for myself, and direct my attention to the individual parts of the bendings. Now I really perceive more than the actually executed movements; the bending in the elbow is now preceded by the feeling of a peculiar impulse. It is not a general feeling of exertion, but a quite specific impulse, which is different for every movement, and plainly stands in relation to the special performance intended."

What, then, has analysis to say of these feelings of innervation which immediately precede the movement and seem to be its

cause! Münsterberg turns round triumphantly to apply his former criterion. What we call impulse in the case of muscular contraction is simply the circumstance that the idea of the effect to be produced precedes the effect as actually produced. The feeling of innervation is just the memory-idea of the movement anticipating the movement itself.

There has been much discussion as to the precise nature of the so-called feelings of innervation; but, as Wundt, who had formerly held an opposite theory, has explicitly accepted this view of them as the one most consonant with the present state of our knowledge of the subject, there is no need to reproduce here the arguments which go to establish the position. It commends itself by its naturalness and simplicity. When we are on the point, say, of making a stroke at a ball, we have a premonitory feeling of the energy which we are about to expend; it seems to flow forth toward the limb which we are about to use. One theory explains this feeling as due to an immediate consciousness of outgoing energy; but the physiological difficulties in the way of such a conception are great. It is not necessary here to decide whether an immediate consciousness of effort is or is not possible, but in any case this theory leaves unexplained the specific character of the feeling in question. For it is to be observed that it is a premonitory feeling of the exertion of *that* limb, not merely a general consciousness of virtue going out from us. This is satisfactorily explained by supposing, as Münsterberg does, that it is due to the reproduction in memory of previous movements of the same nature. Plainly, however, Münsterberg's theory of the feelings of innervation may be accepted, without admitting that this sequence of memory-image and actual perception constitutes, as he contends, the differentia and sufficient explanation of the voluntary act. But it will be observed how ingeniously Münsterberg has reduced all cases of voluntary action—internal and external—to examples of the same phenomena—namely, to cases of an idea or perception A preceded by a—the same idea in a different form. "The feeling of innervation," as he puts it, "is an anticipated idea of the actual movement" (p. 88). Exactly the same analysis applies to those voluntary actions which do not end in a muscular contrac-

tion, but aim at the production of some effect in the external world.

"When I move my finger, not in order to practise the different movements, but to write something down; when I contract the muscles of my organs of speech, in order to make a communication to somebody; when I bend my arm in order to greet a passer-by—in all these cases I perceive in the first stadium, the more or less distinct, more or less clearly represented, idea of the end; and in the second stadium I have a sensation (*empfinden*) of the end as attained. That alone is the type of the external act of will" (p. 89).

However complicated the action is, extending possibly over a longer period of time (a journey, the erection of a building), it may always be resolved into the ultimate end in view and the subordinate actions which have to be performed in order to attain that end. In the process of execution the ultimate end falls temporarily into the background, and the subordinate actions or means become, each in turn, in a definite series, the proximate end before the mind. And step by step the same analysis holds good: the end is first present as idea, then as a perception of accomplished fact. Münsterberg goes on courageously to apply his analysis to the usually received distinction between desire and will.

"In order that the desire of an attainable object pass into the corresponding act of will, neither more nor less requires to be added than just the carrying out of the desire, so that the idea of the end may be completed by the perception of its attainment. . . . The liveliest feeling of practical freedom cannot alter the fact that the will itself is nothing more than the perception (frequently accompanied by associated sensations of tension in the muscles of the head) of an effect attained by the movement of our own body along with an antecedent idea of the same effect drawn from imagination—i.e., in the last resort from memory; this anticipated idea being given as feeling of innervation when the effect is itself a bodily movement (pp. 95-6). *A theory of the soul does justice therefore to the whole field of physical phenomena, if it assumes as the only function of the soul, sensation characterized by quality, intensity, and tone of feeling; a definite group of sensations we call will*" (p. 96).*

This is the conclusion of the second part of the investigation. The first, or purely physiological, part reduced the phenomenon to a series of reflex movements; the second, or purely psychological, part has reduced it to a series of sensations. The third, or psycho-physical,

* The italics are Münsterberg's.

part investigates the relation of these two series to one another. We cannot believe that the two series are quite independent, and if we are driven to suppose that the one is conditioned by the other, there can be little hesitation in settling which is the conditioning factor. The psychical series is discontinuous, constantly interrupted by perceptions which are shot inexplicably into its midst without the possibility of causal explanation from the foregoing train of ideas: there are many bodily functions which, so far as we know, are not represented in consciousness. These and similar considerations make the psychic series unfit to be the explaining factor, and accordingly Münsterberg reaches the conclusion that "the series of conscious phenomena is conditioned by the regular course of material occurrence." This leads to the inquiry, what are the processes in the sensory-motor apparatus which correspond, when inwardly contemplated, to the sensational complex called a volition.

Münsterberg's results are reached in the course of an interesting, and in some respects brilliant, discussion as to the localization of brain function. It is beyond our interest to follow him in his detailed criticism of different theories. His own positions are mainly two: (1) that there are no specifically motor centres; and (2) that perception and memory are connected with the same material substratum, or, to put it otherwise, that ideas of sensation and the corresponding ideas of memory are connected, not with different parts of the brain, but with the same set of material processes differently excited.

There is much to be said for these conclusions, but it is with Münsterberg's application of them that we are concerned.

"Every ganglion of the cerebral cortex [he resumes] is thus end-organ of a centripetal path; but every ganglion is also the initial organ of a motor path. Motor centres do not exist, therefore; or more properly, every centre is sensory and motor at once; every motor impulse has its source in a sensory stimulus, and every sensory stimulation presses on into a motor path" (pp. 141-2).

What happens in consciousness, then, when a response to stimulus takes place? At first, nothing precedes the movement except the sensation or perception which discharges it. The movement "goes off," that is to say, in a purely reflex way, through the force of the incoming stimu-

lus. But as soon as the movement actually takes place, consciousness has something new before it, namely, the feeling of movement produced in the contracted muscle. This feeling of movement follows, therefore, immediately upon the perception of the stimulus which discharged the movement; and the sensory excitation of the central ganglion which corresponds to this feeling of movement becomes connected accordingly by an association-path with the first excitation which gave the impulse to the movement.

"If, now, this process is several times repeated, the connection becomes so close that the first excitation inevitably calls forth the second, directly by the path of association, before it has time to be produced by the actual contraction of the muscle. Psychologically expressed, that is as much as to say, the perception of the stimulus must call forth by association the memory-idea of the corresponding sensation of movement before that sensation itself is produced by the actual execution of the movement. The former process takes place by the shorter way of the association-paths in the hemisphere, the latter requires first to be conducted to the muscle, the inertia of the muscle has to be overcome, the contraction to be actually produced, the sensory nerve to be affected, and the sensory stimulus conducted back to the cortex. All this occupies an appreciable time, and the sensory stimulus arrives accordingly considerably later. And now we see clearly why our feeling of innervation precedes the perception of the actual movement. In it, as the constant signal of movement, a signal that is also the actual counterpart of the movement, we involuntarily believe that we see the movement's cause. This is the type of voluntary action from which all other forms may be developed" (p. 145).

Take, for example, an act of choice. Here we have, let us say, two stimuli both alike in strength, but incapable of combination in a common reaction. At first no motor reaction can result; but each stimulated ganglion rouses the centres which are connected with it by association-paths, and now it is not an opposition of stimulus against stimulus, but on both sides there collect the associations won by former experiences. However great the complication may be, the sensory stimuli with their associated ideas constitute the sufficient and only verifiable cause of the resultant movement; or, as he puts it in another place, "the voluntary act is the motor discharge of sensory excitation, whether it be the sensation of a single stimulus, or a world of internally and externally combined ideas. As soon as the

sensory excitation-complex, the conscious content of ideas, is there, the movement is necessarily given too" (p. 156). And thus the only psychical criterion of the will remains what it was found to be at the end of the psychological section—namely, that before the perception of the actual result, the *idea* of the result is present in consciousness.

We have the theory now pretty fully before us, and, as has been indicated, there is much in the physiological analysis that is freshly put, and that is probably true. It seems important to remember, alike in physiology and psychology, that the sensory centre in the brain, the central ending of the sensory nerve, does not constitute a terminus, and consequently that there is no such thing as passive sensation, sensation which is simply received without producing further effects. All consciousness is impulsive. If the stimulus received does not find an immediate vent in movement, it irradiates other brain tracks in the form of association. The phenomena of imitation, suggestion, and many other considerations, reinforce this conception of the dynamic quality which all sensations and ideas possess. Münsterberg, however, has skilfully woven these truths into the texture of a preconceived theory. In the very act of emphasizing movement and the dynamic aspect of ideas, he eliminates altogether the notion of action or activity. Ideas "go off," or explode, as it were, in movement of their own accord. There is, first, the idea of the movement as in contemplation, and, secondly, the perception of the movement as executed. In other words, there is a series of happenings somehow passing before us, but no real activity, no real actor in the whole affair. In all so-called action we only seem to act; a sequence of ideas exhausts the phenomena of will. The conscious subject is reduced to an inactive spectator of these psychological happenings, which are themselves the inert accompaniments of certain transformations of matter and energy. There results, in fact, as indicated at the outset, the doctrine of conscious automatism in the most unqualified sense of the words.

Now, I do not hesitate to say that this conclusion is in the strictest sense incredible; no amount of so-called "evidence" in its favor would avail to make it even momentarily believable. But as the theory

airs itself with a great deal of confidence, and troubles a good many minds, I will endeavor to show that such results are not reached by any cruel "logic of facts," but are all involved in a few erroneous psychological presuppositions, perhaps I ought to say, one fundamental prejudice, by which the analysis is vitiated from the outset. This prejudice I might call phenomenism or presentationism.* Wundt calls it in one place intellectualism. It is the foregone conclusion that the conscious life is analyzable without remainder into ideas or presentations. Evidently if phenomena or *objects* of consciousness are alone to be accepted as facts, then all real activity on the part of the subject is necessarily eliminated; the subject remains only nominally as a static impersonal condition of the series of events. If we insist upon phenomenizing the act of volition, doubtless all the *phenomena* we get are the ideas that precede and the perceptions that follow, with perhaps some feelings of tension in the head thrown in. But does it not require some effrontery to offer us these antecedent, concomitant and sequent *ideas* as an account of the *volition* itself? To attempt to analyze a volition into ideas, is about as hopeful as trying to reduce miles and furlongs to pounds avoirdupois; there is no common denominator. In the course of such analysis, the real fact of volition is necessarily dropped; it is overlaid by the mass of antecedents, concomitants and sequents which acute introspection enables us to discover. But, as M. Fouillée says, the physiological psychologists might fill volumes with their analysis of the sensations which accompany the voluntary act without touching the essence of the act itself.†

The result of analysis infected with this phenomenistic or intellectualistic prejudice is necessarily a panphenomenalism essentially similar to that of Hume. There is the same elimination of all real causality: sequent ideas are all. And if, in deference to a quasi-Kantian theory of knowledge, the self or subject is apparently retained, this seeming difference from Hume is only skin-deep. For, as Münsterberg tells us twice over, "the subject in ques-

* This is the term adopted by Dr. Ward in an article in the January number of *Mind*, which has appeared since the present article was in type.

† *Revue Philosophique*, vol. xxxii., p. 238.

tion is entirely impersonal,"* the static condition of consciousness in general. The individual self is analyzed, as with Hume, into groups and sequences of ideas; it is an object in consciousness—an object, presumably, for this impersonal spectator-subject.

I pointed out, in passing, how entirely Münsterberg's psychology was dominated by this phenomenalist point of view. It appears, incidentally, in the very expressions he uses, as a reference to the passages already quoted abundantly shows. In his equation of phenomenon with fact, in the constantly repeated use of the term *Inhalt*, or content, it is presupposed that objects or presentations in consciousness are the only elements that will be allowed to stand as real. At times, Münsterberg speaks even more naïvely of "the sensation of will," of which he is in quest. This recalls, even verbally, Hume's famous expedition into his own interior in order to discover the perception of the self. Show me the impression from which the idea is derived, says Hume, and because no particular impression can be found, the idea is pronounced a fiction; the self is resolved into a bundle of perceptions. Show me the sensation to which the word "will" corresponds, says Münsterberg, and finding a number of accompanying sensations, he mistakes these for volition itself, and concludes roundly, as we saw before, and as Hume had done with the self, "the will, too, is only a complex of sensations." But this conclusion depends, on Münsterberg's own showing, upon two all-important *ifs*. If sensation is the element of all psychical phenomena, and if the will is only a phenomenon in consciousness, then, and only then, does it follow necessarily that the will is resolvable into a complex of sensations. In support of the first "if," Münsterberg, as we have seen, has nothing to offer but a vague reference to "modern psychology." Wundt, in criticising his speculation,† justly censures this attempt to clothe an assumption with the air of an accepted truth, and to cover it with the ægis of "modern psychology." Wundt's own phraseology has wavered in his different editions, and its looseness may be partly

responsible, as Dr. Ward suggests, for the extreme conclusions of his followers. But now, at least, perhaps in view of these conclusions, he explicitly disavows the resolution of all consciousness, including feeling and will, into sensational elements. Sensations, he holds, are the ultimate elements of "those conscious contents which we refer to external objects," that is to say, of our ideas or presentations. Whether true or not, such a position is at least intelligible, but it contains no warrant for identifying feeling and will with any presentation or combination of such.

There is, in fact, no distinction more fundamental to a sound psychology than that between the feeling-directed activity, which, under all its forms, from the simplest act of attention and response to stimulus, may be summarized as will, and the content or matter with which that activity deals. Doubtless the two cannot be separated; each is an abstraction without the other. But one thing, at least, is certain, that to resolve the fact of conscious experience into a sequence of presentations or conscious phenomena is to omit the vital characteristic of all consciousness. It is to offer us a machinery without any motor force; and when we mildly point out the omission we are met by the ready but somewhat brazen retort that the machinery is *self-acting*. Wundt comments acutely on the way in which this "intellectualistic" psychology substantiates ideas or presentations, and treats them as if they were things or entities that could independently exist and interact. Even when it is admitted that presentations have an existence only for consciousness, so that the unity of consciousness is acknowledged to be their necessary complement or point of reference, the ideas still seem to stand *over against* the consciousness to which they are referred, and to carry on their evolutions independently. Consciousness, according to this way of thinking, becomes a mere form inclusive of a certain matter, but without influence upon it: it is regarded as purely speculative or contemplative; an eye, shall we say, contemplating the movement, or, to be strict and to avoid metaphor, merely an ideal point of unity. Metaphor or no metaphor, the result of this way of looking at things is obvious. The whole weight is thrown upon the objects—the ideas or phenomena thus quasi-independently conceived—and the

* "Aufgabe der Psychologie," pp. 99 and 130.

† "Philosophische Studien," vol. vi. p. 382, *et seq.*

recognition of the subject becomes an empty acknowledgment. It is entirely denuded of activity, all action being refunded into the play of presentations.

For this assumption, however, there is an entire absence of warrant. A psychology which aims at keeping in touch with fact must strenuously resist this subtle tendency to reduce everything to presentations or objects of knowledge. Experience is, in this reference, a wider term than knowledge, and feeling and will are inexpugnable and irreducible features of experience. Knowledge, feeling, and will are three aspects of experience—inseparable aspects, it may be freely admitted—but none of them can be expressed in terms of the others; no one of them can be reduced to simpler elements, no one of them can, properly speaking, be defined or explained otherwise than by pointing to the living experience in which it is exemplified. Münsterberg's position here is rather inconsistent; he denies will as more than a complex of sensations, but he contrives to smuggle in feeling by calling it an attribute which every idea possesses. He follows Wundt in saying that every sensation, in addition to its intensity and its quality (as touch or taste, red or blue, and so forth), also possesses a tone of feeling, or, as Professor Bain puts it, an emotional side; and to this third aspect of sensation, curiously enough, he allows that there is no material counterpart.* This statement is curious, I say, not in itself, but as coming from Münsterberg. There can be no material counterpart just because feeling is not itself an object, phenomenon, presentation or stimulus, but the attitude of the subject toward a given stimulus, the relation of the stimulus to the life of the individual as a whole. This subjective appreciation cannot, in the nature of the case, be represented in objective terms. Feeling, as Dr. Ward says, after Hamilton, is something subjectively subjective. If we are to restrict knowledge to objects or phenomena, then we do not *know* feeling, for feeling cannot be phenomenalized. We experience feeling and we know *about* it by its results, but, using the term in this sense, we know only the causes, accompaniments, and consequences of feeling. It may be said that we remember our feelings and emotions and

that we must know them at the time in order to remember. But we remember feeling only in the sense that when the ideas which caused or accompanied it are recalled, they are recalled with the same tone of feeling—in other words, we re-experience in a fainter degree the feeling which we then felt. It is this characteristic of feeling that explains its frequent neglect by psychologists. For feeling cannot be recalled or considered except in connection with its objective causes or accompaniments; in recording the facts, therefore, the psychologist is apt to forget the subjective tinge of the ideas or presentations, and to report upon them in an impersonal way, as ideas in themselves, so to speak. But it was only in virtue of what I have called the subjective tinge that the ideas were *his* ideas at all, and had any relation to his life. As they presented themselves they were felt to be either a furtherance or a hindrance to the vitality of the subject, to be either relevant to the dominant interests of the individual or discordant. Interest and desire are the result in the one case, indifference or repulsion in the other. And it can hardly be too strongly emphasized that the dynamic efficacy of ideas is entirely excited through the feeling-subject. Ideas have hands and feet, as Hegel finely said, and how often are we told that ideas move the world. It is true, or at least we hope so. But every one must acknowledge that to speak in that way is to use a vivid metaphorical shorthand. Ideas entertained tend to pass into action, a plan conceived and cherished tends to execute itself; but as Fichte long ago said the real force is not in the ideas but in the will of the person who adopts them as his. So when psychologists like Münsterberg attribute the whole march of the conscious life to the dynamic influence of idea upon idea, it is well to remember again that this is at best a convenient shorthand. Ideas in themselves are pale and ineffective as the shades of Homeric mythology; they are dynamic only as they pass through the needle's-eye of the subject. It is the subject which acts upon its appreciation of the stimulus, and the emotional attitude of welcome or repulse is what is meant by feeling.

In its earliest and simplest forms, such an emotional wave passes immediately into the appropriate motor response.

* "Willenshandlung," p. 137.

The food is clutched or somehow absorbed, the disagreeable intrusion is evaded, edged away from, as far as the power of the being admits of. Feeling, thus conceived, and allied thus closely with action, forms what I may call the driving-power in all life. Here we strike upon the roots of individuation, and when we say that, is it going too far to add, upon the fundamental characteristic of real existence? In this connection, I am confident that whether we look at the matter psychologically or physiologically, we are shut up to the conclusion that all action of living beings was originally feeling-prompted, and that what we call reflex action is everywhere a secondary product, a degraded form of purposive action. We know that many actions at first performed voluntarily, actions learned with effort by repeated forth-puttings of concentrated attention, become by degrees habitual and are performed automatically without attention—i.e., without any need for express volition to come into play at all. Great part of the detail of our daily life is handed over to mechanism in this way, and psychologists and physiologists have not been slow to emphasize the beneficent operation of this fact. It is, indeed, the very condition of progress that aptitudes once acquired should establish themselves as definite tendencies within our mental and physical organism—definite co-ordinations of stimulus and response which do their work without our active superintendence. The powers of intelligence and will—the powers of personality, if I may so speak—are thus set free for new tasks and further achievements, till these in turn are, as it were, built into the structure of the self. Only thus is the spirit fitted to advance upon its endless path. But mechanism is thus, in every sense, posterior to intelligence and will; it is a means created and used by will. In a strict sense, will creates the reflex mechanism to which it afterward deposes its functions. Mechanism, in fact, here as everywhere, is a means, something secondary; it is impossible to conceive it as something primary, existing on its own account, much less as carrying in it the explanation of the higher conscious and voluntary processes. Intelligent volition is not reflex action grown complicated, and so become conscious of itself. That is precisely to invert the true relation, an inversion which would be lu-

dicrous, if it were not disastrous. Reflex action is the lower range of purposive action grown unconscious or subconscious, according to the economy of nature, because consciousness is no longer necessary to its proper performance. It is not to be supposed, of course, that this takes place within the life history of the individual human being, or of any highly developed organism. In such an organism, many reflex paths, many co-ordinations of stimulus and response, are doubtless fixed; they have been established in the long process of race-evolution, and in virtue of their establishment that evolution has proceeded. But follow the process as far back as we may, all analogy points to the same conclusion, namely, that feeling-prompted—i.e., germinally purposive, germinally voluntary action, is the *πρότερον φύσει*, the first in the order of Nature. In the lowest organisms, the reaction upon stimulus may be so simple and uniform as to wear to an observer the appearance of a mere mechanical reflex. But this is, if I may so speak, to make the creature *a mere outside*; it forgets, as this mechanical psychology is constantly forgetting, that wherever there is life there is unity. Every organism is a unity, and resumes itself as a unity. Feeling is the inward expression of this unity, and to my mind, it is not doubtful that the movement of attraction or repulsion, which to us and from the outside, may seem a simple reflex, is to be interpreted rather as the total response of a germinal consciousness in the being, as the expression of its likes and dislikes. Physiology, so long as it remains *pure* physiology, is perhaps debarred from taking account of feeling or consciousness as such. The psychical, in all its forms, lies outside the scope of physiological methods. But the self preservative, recuperative, self-adaptive tendencies of organisms and organic tissue, are the physiological way of expressing the same fact. The physiological mode of expression is imperfect and mythological, perhaps, and one can understand that many physiologists, *supposing it to be put forward as an explanation of the facts*, grow impatient and fall back upon a purely mechanical theory of vital function. But these expressions are in no sense explanations, as science uses that term; they are rather *finger-posts to the unexplained*; they merely name or indicate the funda-

mental characteristic of life as such, which differentiates it from mechanism, or what seems to us to be mechanism. Life is the presupposition of physiology, the fact on which its existence is based, a fact which it has simply to accept, as all the other sciences have to accept their own presuppositions. Its explanations move within the fact of life and cannot be used to explain that fact itself, or in other words, to explain it away. Yet that is in substance what a purely mechanical physiology tries to do. Physiology for the last fifty years, it may be said, has been dominated by a reaction against what is called vitalism. The older investigators were in the habit of calling in "vital force" as a *deus ex machina* to account for any phenomena which baffled their powers of natural explanation. Vital force, conceived as extraneously interfering with otherwise mechanical processes, was evidently a hypos-tatized entity of the worst type, and it was accordingly discarded by scientific physiology as part of the baneful legacy of metaphysics. Mechanical explanation, or in other words, the resolution of physiology into physics, became the watchword and ideal of the best workers. But they did not observe that they were in danger of throwing away the child with the bath, as the Germans say. After all, physiology is not physics; living matter behaves differently from dead matter. What is the difference and the basis of the difference? In rendering mechanically intelligible the inter-relation and inter-action of this and the other part of the bodily structure, physiologists tend to forget that all such mechanical arrangements are arrangements *in the service of life*, arrangements produced in the living being (in all probability) by the responsive and self-adaptive action of its living ancestors in the course of ages. *Purposiveness* is the notion upon which physiology is built, and it is worked into the whole theory of development; yet it is a notion entirely alien to the blind *vis a tergo* of mechanism as such. The more clearly a physiologist realizes what pure mechanism means, and the more fully he grasps the import of the facts he has to deal with, the more ready will be his acknowledgment that to call them mechanical is at best an analogy. They belong to a different order of facts; life and purpose govern them from one end to the other. A self-acting and self-regulating

machine is only by an abuse of language spoken of as a machine at all.

It is in vain, therefore, that many psychologists at the present time outdo the physiologists in the glibness with which they talk of nervous currents and explosions of nervous energy and paths of least resistance. The appearance of explanation conveyed by the use of the expression, path of least resistance, is in the last degree illusory. We are transferring an expression which has a perfectly definite and intelligible meaning in physics or mechanics to a sphere where the conditions are quite different, and where we are moreover almost quite ignorant as to the nature of what actually takes place. Path of least resistance means in such a case simply the particular reaction which we find the stimulus, as a matter of fact, produces. We have no right to go further than this. The use of the physical phrase implies, however, that what takes place is precisely the same as the selection of a channel made by a rill of water trickling down a hillside. This is to make the living being a retainer of external nature with a vengeance: he is simply a network of pathways through which the energy of external nature takes its course, soaks in, and oozes out again. But this is not a true account of the humblest organisms. Such a representation totally ignores the unitary character of the organic and sentient being. We are misled, in short, by words like "currents" and "energy" and "least resistance." What do we mean by nerve currents? Nerve currents cannot be treated in this isolated fashion, as if they took place *in vacuo*, or in an indifferent medium; they take place in a living individual, and apart from the unity of that individual, they are mere abstractions. A nerve current is a physiological process, which originally and normally means central stimulation and appropriate central reaction. You cannot separate either the appreciation of the stimulus, or the reaction upon it from the organism as a whole. To speak psychologically, it is the living being as a unity that is aware of the sensation and responds to it. There is no need here to revive any hypothesis as to the specific seat of the soul, or to conceive any point of convergence in the brain for the multitudinous nerves of sensation and motion. However the nervous system acts, the unity of consciousness, as

we experience it every moment, is proof sufficient of the fact that it does act as a unity. Every living being is a similar individuate unity. Abnormalities, as when the removal of the higher centres gives rise to the establishment of independent unities—say, in the spinal cord—are no arguments against what I contend for; they rather go to prove that even the mutilated organism, so long as it lives at all, reconstitutes itself into a kind of unity.

A living being, then, is at the very least a centre of sensation and reaction, and when sensation is so used, it means not only intellectual awareness of some presence, but also a subjective drawing to, or away from, the intruder. This second element of feeling proper is the link between the sensation as knowledge and the reaction as will. And however the growth of the intellectual life and of volitional self-control may emancipate us from the promptings of the moment, it is to the end through feeling that the whole process of our life goes on. It is in feeling that we assert our individuality, give expression to our preferences and distastes. Feeling leads each of us to select from the infinite of the knowable and do-able, that little world of interests and habits which differentiates us one from another, and gives to each his peculiar point of outlook upon the universe.

The necessity of taking feeling first has led us in appearance away from our specific theme. But it is only in appearance, for what has been said of feeling applies *mutatis mutandis* to will. The presentationists endeavored to make feeling a relation between ideas, instead of the relation of ideas to the subject of them. If the

subject has identified itself, as we say, with certain ideas or interests, then any idea which conflicts with these ideas will result in pain or displeasure to the subject. But here, as always, it is not the relations of ideas as such—relations in the phenomenal plane, as it were—but relation to a subject, that constitutes the fact of feeling. Similarly with volition. Volition is the action of a subject, and as such it cannot be phenomenalized.

But this is just what the phenomenalists, from Hume to Münsterberg, insist on doing. They resolve volition into a sequence of presentations: first, an idea, then a perception, according to Münsterberg, but no intervening fiat, no power, no real action, nothing corresponding to what we mean by volition—just the one first, and the other second. The answer to be made to this ingenious theorem has been indicated already. To ask to know the will as a presentation is to ask to know it *as it is not*. The phenomena which Münsterberg offers us are very likely all the phenomena in the case, or if there are more the others are like unto them. But this whole investigation is a *petitio principii*. The heading of the psychological section of his treatise runs: "The Will as a Phenomenon in Consciousness;" and that we may be in no doubt as to his meaning, he says in his preface: "It might also run, The Will as Idea (*der Wille als Vorstellung*)."
The will as idea—that is the whole theory in a nutshell. No enemy could have put the case more conclusively against Münsterberg than he has done himself in these words, which are nevertheless the key-note of his whole inquiry.—*Contemporary Review*.

RELIGION, REASON AND AGNOSTICISM.

BY A. BODINGTON.

THE old questions which for centuries have exercised the human mind, which seem destined to revolve in a cycle from which there is no escape, are presenting themselves in fresh force to the thinkers of to-day. The inscrutable problem of the existence of evil has been, at least partially, explained in creeds ancient and modern by postulating spirits of good and spirits of evil; in the monotheistic Semitic

religions a spirit of good, represented as all-powerful, and an inferior spirit of evil. Human reason was not to trouble itself with matters too high for it, but was to believe in an all-good and an all-powerful God, who fore-knew and allowed all the evil in existence, and punished man eternally for finite transgressions designedly placed in his way. This monstrous triumph of what theologians are pleased to

call "faith" over reason culminated in the frightful Moloch of Calvinism, in comparison with whom the Moloch of Canaan and Carthage was a merciful divinity. The victim placed in the hands of the Carthaginian idol found a speedy death in its blazing bosom, but the eternally predestined victims of the Calvinistic Moloch were consigned to an eternity of torment, wherein "infants a span long" were seen in imagination "crawling on the floor of hell." But as the Moloch of Calvinism and the mediæval devil alike fade away from our ken, we are confronted as persistently as ever with the old difficulty: How is it possible to reconcile the conception of an all-good, supreme Being with the fact of the existence of evil? The humanitarian spirit of our age, acting on minds still animated by orthodox ideas of theology, tends to evolve a type of deity well satirized by Matthew Arnold as a trinity of the "three Lord Shaftesburys." All the terrible side of Nature and human life is judiciously veiled, like the vivisected dog discreetly covered with a cloth in Claude Bernard's statue. There is no more favorite ground of theological sophistries than that of the existence of pain. Pain has to be proved a good; where that ceases to be possible, even in *a priori* reasoning, refuge is taken behind "wise purposes." Now, Nature shows the same utter indifference as to the good or bad effects of pain as she does about all other things which affect sentient beings. Sometimes pain is beneficial, as when it warns us to drop a piece of hot metal. Oftener its warnings come too late to be of any benefit, or they could under no circumstances have been of benefit. If the onset of cancer, for instance, were attended with such sharp pain as to lead to its prompt extirpation, it might be beneficial. But some cases of cancer, and of another ordinarily acutely painful disease—peritonitis—run to their fatal end almost without pain. Other examples might also be cited did space permit. The excruciating pain attending *incurable* diseases can hardly be called beneficial.

It may be said, and is said, that pain has a remarkably elevating and ennobling effect when it is borne in submission to the "will of God." In the first place, it will be found, as usual, that the diseases from which the pain arises owe their origin to natural causes. In the second place,

in a case of tumor of the brain or of degeneration of the spinal cord, where raving madness or idiocy follow the progress of the malady, where is the elevating, ennobling effect of the frightful pain attending the progress of these maladies? Where is the elevating, ennobling effect of malformations in infants, *arising from arrests of development*, and leading often to a death of lingering torture? We will not have pain called a "good" in certain picked instances and not in all. Theological cruelty, unmatched by any other cruelty, adds the reproach of "sin" to the agony of sufferers. There are diseases which take their rise from the defiance of moral and physical laws of health. But an immense preponderance of diseases, and consequently of pain, comes from awkward adaptations of a lower type of animal to a higher type, and from the serene impartiality with which Nature allows all her forms, low and high, to struggle for existence.

According to the dictum of the theologians, not only pain, but every other kind of evil and suffering, is "allowed for some wise purpose," into the wisdom of which it is highly improper to inquire. Every one who escapes from an accident or recovers from disease is "providentially saved," or "spared," but nobody is "providentially" mangled in a railway accident, or buried alive in an earthquake; these latter fatalities come under the heading of "wise purposes." Away with such puerile reasoning—or rather, want of reasoning. Let us face the Frankenstein which haunts all creeds, and see if he cannot be exorcised, without leaving the only guide we *can* have—the "weak human reason" which theologians, with arrogant pride in their own blind faith, love to deery.

Reason recognizes the Unknowable, or, as some philosophers would rather say, the Unknown. Science shows us secondary causes, and teaches the sequences in which natural phenomena occur, but behind all phenomena looms an impenetrable darkness which veils the *noumenon*, dark and inscrutable as men felt it to be when they erected an altar to the Unknown God, and said of the goddess of Nature: "I am Isis, and no man hath lifted my veil." That heat and light, and chemical affinity and electricity, are various forms of the same energy, we know. But what

that resistless, all-pervading Energy is, we know not, nor do we even know the medium through which it acts. We know only that certain vibrations of an unknown medium we call the ether produce on our senses the sensations of heat and light. Of the unknown medium through which gravitation exerts its force we do not know even this much; yet, as Sir Isaac Newton said, it is unthinkable that gravitation can act through a vacuum. We can have no better example of a force whose influence can be computed with the utmost exactness, yet of whose nature and mode of action we are completely ignorant. Behind the known stands ever the Unknown, and we who most fully feel and acknowledge this are accused of "pride of intellect." In the nomenclature of the theologian "pride of intellect" is a phrase meaning only that his opponents have passed the point at which he elects to stop. Each of us, as Mr. Stevenson has wittily said, in the destruction of old creeds finds for himself a ledge on which to build his private church or temple. On his special ledge of the precipice of scepticism he rests to his own satisfaction, pitying the superstition of those on the ledges above him, and condemning the "pride of intellect" of those whom the cataclysm has rolled farther down.

For my part, I have slipped from ledge to ledge, striving with all powers of heart and mind to believe in the Fatherhood of God and the Divinity of Christ; feeling one belief after another give way in my grasp, as a falling man feels boughs, and twigs, and tufts of grass yield as his whole weight hangs upon them. Religion was not to me a respectable cloak sanctioned by Mrs. Grundy, nor a ceremony to be attended to on Sunday; but either a reality which could take the place of all earthly joys and hopes, and leave them but as dust in the balance—or it was nothing. Subjected to this mortal strain, every strand of every orthodox creed gave way.

The ledges on which I endeavored to found some remains of a creed lay ever farther and farther down the abyss, where the "higher Pantheism" has no more comfort for the human soul than rank Materialism. Glorious seems this higher Pantheism as we see it reflected from the minds of our supremest singers. Glorious, too, have been the sunsets I have watched reflected over a region of lake

and fen girt in by snowy peaks. But the footsteps which might be tempted to wander over that enchanted land would sink in cold and utter weariness. Slowly I found one line of reasoning which did not demand the impossible leap from Reason into Faith, which rested not upon one creed, but upon all creeds, and derived strength from evolution itself. Of this I will speak more fully further on.

I would first point out the weakness of all those forms of faith which take as a postulate, "There is a God, All-Powerful and All-Good." It is the fashion in these days for theologians to declare that they intend to adopt the methods of reasoning of physical science. They see the triumphs gained by these methods of reasoning in every department of knowledge, and they think an easy victory lies before them. I am always by such declarations forcibly reminded of that African king who, hearing of the immense revenues derived from the Post Office in European countries, determined to become rich beyond the dreams of avarice by establishing one in his own dominions. Alas! he failed. He had forgotten one simple consideration—none of his subjects could write. And theologians have never been trained to reason in the way demanded by physical science; they *cannot* begin by induction pure and simple. In every physical science the inquirer endeavors to obtain the largest possible number of facts, and then frames the hypothesis which, in his judgment, best accords with the facts. When we wish to know the evidence on which any given physical science is founded, we are not suddenly brought to a standstill by the statement: "At this point facts are utterly at variance with what *we know to be the truth*"; therefore at this point we must leave our weak human reason, and arrive at an opposite conclusion to that pointed out by the facts." We should certainly instantly conclude the teacher of science who could make such a statement had gone mad, and we should make anxious inquiries as to the probability of his restoration to sanity. But if we are so ill-advised as to enter into any discussion upon religion with a theologian, or to read the dissertations in which he triumphantly demolishes scepticism, we know only too well that his reasoning will end up in this manner; and we do not say that he is mad—we say

that he reasons like a theologian, and doubt our own sanity in beginning a discussion which could only end in one way.

This "leap in the dark" from the guidance of my reason, however "weak" or "human," into "faith," I find myself utterly unable to take; and did the constitution of my mind enable me to take it, I should be only landed in a region of inextricable confusion. If I must relinquish reason as a guide, in which creed shall I have faith? Surely it is not meant that every one must have faith that the religion he is brought up in is the right one? If so, it is extremely wrong to send out missionaries. In all sober seriousness, if faith is all I am to have for a guide, I cannot see why I should not believe in Eä, the beneficent god of the Sumiro-Accadians, and his equally beneficent son, Meridug; or in the supreme Principle of Good, Ahura-Maszdão, with the disciples of Zarathustra; or in the sublime conception of Brahma in the hymns of the Rig-Veda; or in one who, as a self-sacrificing lover of men, is second to none—Gautama Buddha. If poor Reason is allowed a voice, I can see absurdities and contradictions in all creeds evolved by the higher races of men; I can also see sublime and heart-satisfying ideas and hopes. The Jewish conception of the Supreme Being begins with a revolting anthropomorphism; Yahveh is a Jew of the early ages of the race—cruel, passionate, and jealous; rewarding such of his followers as contrived to remain alive, entirely with material comforts. The character and person of Christ inspire me with admiration and strong affection, yet to my reason he appears only as an excellent, often mistaken, human being, whose most explicitly declared prophecy signally failed of fulfilment. And if I must be deaf to reason and take to faith, why should I believe Christ to be divine any more than Buddha? Both seem to me eminently admirable and loveable, and both human, and therefore often mistaken; faith alone might accept either as divine, while reason will accept neither one nor the other.

Having then pointed out that while Reason is obviously unable to understand anything but phenomena, yet that it is impossible to go safely beyond its guidance, I may now proceed to show how strong the evidence is for the hypothesis that the Universe, as we know it, seems

the product of impersonal, unvarying law. The thought is a sad one, yet to me at least incomparably more satisfactory than the theological Moloch who reigns as the god of much Christian theology. It is incomparably and immeasurably preferable to the hideous conception of a personal God who can condemn His sentient creatures to infinite punishment for finite offences; punishment, moreover, so hideous that its infliction for the shortest period by one human being upon another would be regarded as atrocious. The features of this frightful deity are becoming dim, but his place is being taken by another hardly more tolerable. The orthodox are asked to believe that everything which takes place is by the immediate arrangement of God. This idea does not stand out in the naked simplicity of former times. It is too firmly established in civilized countries that earthquakes and tempests obey natural laws for these phenomena to be used as indicating divine anger. Nor among the educated can plagues and famines be considered as indicating God's anger. But even now, if two or three persons are rescued from a fire, or a shipwreck, or a railway accident, they are held to be "providentially" saved. Were the simplest laws of reasoning valid in theology, we should be told all those who were not rescued were providentially burned, drowned, or mangled. But on this side of the question one only hears: "God has permitted this to happen for His own wise purposes." The reasons, when examined into, either in the case of those who escape or those who suffer, are of course simple examples of the action of natural laws: a child dropped a lighted match; the ship struck upon a rock; the signalman was asleep. If a child dies, it is taken for some "wise reason;" if it lives, it is "spared." The child that dies may be taken from a loving home and devoted parents; the child that lives may grow up festering in disease and crime; yet we are to suppose the one lives and the other dies through God's wise providence. Examining these facts, we again find natural laws in action. The child that died came of a consumptive stock, or a poisonous drain lurked below its dwelling; the child that lived came of a stock strong enough to struggle through its unhealthy surroundings, like a wilted plant in an evil soil. I can understand

the action of natural laws: impersonal; neither cruel nor kind; unswerving whether for good or evil. But I revolt against being ruled by caprice which allows a William the Silent, a Henry the Fourth, to fall by the assassin's hand, and lets a Louis the Fifteenth live out a poisonous life; which could take at one fell swoop the children of Catherine Tait, and leave the children of the thief and the drunkard to grow up in wretchedness and shame; which mangles in earthquake shocks and railway accidents, and burns in fires and destroys by diseases, and tortures in famines; and capriciously saves here and there a few. Such may have been the god which commended itself to the imagination of Caliban. Setebos* is far worse than a godless universe to me.

In natural phenomena we see unchanging laws. Deep as the microscope can fathom, far as the telescope and spectro-scope can take us into the universe, we see evidence of unvarying law. Could we imagine every star ordered in its course of unimaginable speed by the personal interference of a deity, would the idea be so sublime as that of fixed laws inherent in the very nature of matter and energy? And why need we imagine either beginning or end to the universe, since everything we can know of matter and energy shows us that both exist undiminished, and vary only in their manifestations? Creation [making something out of the nothing, as has been wittily said] is an unnecessary and awkward hypothesis, since we can watch the natural processes by which worlds come into existence at this very day. In the vast nebulae of our visible universe we can see the rise of solar systems; we can watch suns at their hottest stage, and suns in their decline.

The evidence of design, once regarded as the corner-stone of natural religion, has become a thorn in the side of those who relied upon it. Animals show evidence of adaptation to their environment, but if palæontology is to be believed, it is the environment which has gradually modified the shapes and habits of animals. Every animal whose pedigree can be traced through geological periods is observed to alter by exquisitely fine gradations; teeth

and limbs gradually becoming moulded to the conditions of their lives, till new species stand before the comparative anatomist. Far from death having been caused by the "sin" of man, death in hideous shapes—by convulsions of nature, by the fangs and claws of monstrous reptiles and fierce wild beasts—existed for long ages before man appeared upon the scene.

When man came we find him as a low and repulsive savage, and there has been a continual ascent instead of a fall of man. But this rise has entailed its penalties. Instead of being a creature faultlessly planned for his high position—or, if faulty, showing signs of a fall from perfection—anatomy and physiology show innumerable signs of man's gradual evolution from lower forms. The vestiges which remain of man's descent from hermaphrodite ancestors, from creatures drawing their prenatal nutriment from a yolk-sac, from animals as simply formed as sponges, all tend to become seats of disease. The appendix vermiformis, made classical by Darwin, is one only of these vestigial relics, and not a week passes without some sad tale of agonizing pain and death from the persistence of structures now utterly useless to man, but actively mischievous. Only in the pages of a medical journal would it be possible to given even a brief outline of the shapes of disease and death caused either by the vestiges of useless structures or by some arrest of the evolutionary process. The man who should now cite the example of the watch as proving the existence of the watchmaker, would have to cite the example of a watch full of awkward unnecessary structures, tending to throw it utterly out of gear, or to stop its motions altogether. In fact, the human body to a comparative anatomist does not suggest the nice adjustment of means to ends which characterizes a machine, but rather that rough-and-ready adjustment to chance circumstances which characterizes organic growths. "Original sin," it has been humorously said, "consisted in man's attempting to walk on his hind legs." Man does walk on his hind legs, and his skeleton has adjusted itself to that position. But his interior organs have by no means properly adjusted themselves. One of the most distressing of diseases arises chiefly from the fact that the *valves in certain veins are still adjusted to suit an animal walking on all-fours,*

* "Caliban upon Setebos" (Robert Browning). The poem should be read as a whole, as a matchless satire on certain religious views.

and are absent where they are most wanted. As the result of blind evolutionary forces man is a great success. It does not the least matter where these blind forces are concerned, what suffering is caused by their imperfect efforts. But a Creator who should make such cruel mistakes could be addressed only with the indignant words of Omar Khayyám :

"Man's Forgiveness, give—and take!"*

Paley said he took his stand on man's anatomy : he could have taken no worse stand.

If from man we cast our eye over the organic world, we are met on every side by evidences of the same imperfections, and by arrangements which we can acquiesce in as the resultant of blind evolutionary forces, but which, if looked upon as the deliberate arrangements of a Creator, could but excite one's utmost horror. Such a Setebos we might indeed fear† for his power and his cruelty, but we could by no possibility worship him.

A whole family of wasps [Sphex] have the diabolical cleverness to sting the caterpillars, which they destine as food for their young, so that the wretched insects are not killed but linger—a wounded, wriggling mass—as food for the young wasps. Now, in this instance we are face to face with one of the most difficult problems of zoology. How does the sphex (which, in common with many other insects, never sees its offspring) know how many caterpillars to provide and wound in this ghastly fashion? Even this and

other evolutionary problems will not make me believe in Setebos.

There is a flower grown in California (*Araujia albens*) which has a most elaborate apparatus for catching and killing the unhappy moths which approach it in hopes of getting honey. The blossoms close on the proboscis of the moth and hold it till it is starved to death. The arrangement is equally cruel and useless, since the moth cannot fly from one blossom to another to fertilize it. But evolution is a blind force which leads sometimes to the welfare and sometimes to the injury of sentient creatures ; there is no cruelty in a blind force, only in the conception of a direct creation, in this and a thousand other instances. Nature is supremely indifferent as to which of her products comes off victorious in the struggle for existence ; all are equally welcome to struggle for a place at the table she spreads, *where there is never enough for the guests*. She provides as ingeniously for the safety of her bacilli of disease as she does for the good of any of her higher children ; her parasitic entozoa are miracles of careful adaptation to existence in various unwilling hosts. To suppose a Creator deliberately making tape-worms, chigoes, ichneumon flies existing on the entrails of living victims, and a host of other noxious horrors, all equally—to a superficial view—admirably designed for carrying on evil existences, would be to believe in a capricious and cruel fiend. I have long since felt that the contemplation of nature as the resultant of the action of blind forces which can sometimes be successfully pitted against one another for our good, so far as we penetrate into their working, is incomparably more endurable than the conception of a Creator deliberately forming nature as it is. I can abnegate my reason altogether, and say these things are inscrutable, that we know nothing of *why* nature has been so framed, that if there is a supreme self-conscious Being ruling the world, we are unable to fathom His actions or His motives. But I will not follow my reason to a certain given point (the point my orthodox opponent happens to have reached), and then say it is "weak" and so leave it. I will not say that all things which appear beneficent in the world arise from the "goodness" of God, *thus employing a term of our human consciousness, and refuse to employ terms*

* "What! out of senseless Nothing to provoke

A conscious Something to resent the yoke
Of unpermitted Pleasure, under pain
Of Everlasting Penalties if broke!

"What! from his helpless Creature he repaid

Pure Gold for what he lent us, dross—
allay'd

Sue for a Debt we never did contract,
And cannot answer—Oh, the sorry trade!

"Oh Thou, who Man of baser Earth didst make,

And ev'n with Paradise devise the Snake :
For all the Sin wherewith the Face
of Man

Is blacken'd—Man's Forgiveness, give—
and take!"

Rubáiyát of Omar Khayyám.

† Caliban in a storm "lieth low and loveth Setebos."

of our human consciousness when things which appear maleficent have to be contemplated. The victims of an earthquake fall before the action of natural laws, or they are destroyed by God; those who escape, escape through natural laws, or they are saved by God. If God caused the beautiful instinct which makes a hen guard her chickens, God also made the ichneumon fly burrow into the entrails of other insects, or both instincts are results of blind evolutionary forces. God made the bacilli of leprosy and consumption, and carefully fitted them to destroy thousands of the highest creatures he had made upon earth, or these bacilli are the resultants of the same blind forces which, acting in other directions, resulted in man.

It will be said: "Your view is one simply of Materialism; it is not Agnosticism at all." Not so; no rest for my mind is founded on a basis of Materialism. That invariability of natural laws which appears to lead straight to Materialism furnishes also the loophole of escape. As I look round and observe all the natural phenomena whose laws of action have been revealed by physical science, I see evidence of unchanging, unswerving laws, requiring no self-conscious being to set them in action. I can neither conceive a beginning nor an end to those manifestations of matter and energy which we know as the visible universe; I can imagine only such an unchanging, unchangeable whole as the fluctuations that occur in the waters of a land-locked pool.

But when we come to self-consciousness itself we come to a form of energy which confessedly baffles the psychologist and the physiologist alike. It is true that we know all manifestations of self-consciousness—passions, affections, moral feelings—depend upon the structure and condition of that mass of nervous matter known as the brain. Let some degeneration take place in the brain or its continuation, the spinal cord, and away go affections, talents, moral feelings; the being we loved is gone, while his miserable simulacrum still stands before us. He who has watched the progress of a case of general paralysis will recognize what I mean. But in every case—in the brain of a Napoleon, or in the brain of an idiot—the nervous matter of the brain constitutes the *machinery* of mind. It is the engine, not the steam. We know the human body

is an electrical machine, having its "power house" in the heart. But that mysterious thing we call vital force is *not* electricity. Nothing can be more probable than that we shall find that vital force, receiving its supreme expression in self-consciousness, is another form of the energy which otherwise manifests itself as heat, light, electricity, and chemical affinity. But again, the nature of that special energy may forever elude us. What forbids us to think that here we have at last a manifestation of the divine, striving to show itself in the only way possible through the gross agency of matter? We cannot, without quitting the guidance of reason, say that the Supreme Being is all-powerful *and* all-good. But what forbids us to think that the eternal goodness, striving with the evils inherent in matter, can, "as in a glass darkly," communicate with us, has been able to evolve in human beings ideas of morality unknown to ordinary matter and energy, and possibly is able and willing to make us one with itself when the veil of flesh has been cast aside?

As an evolutionist, I do not see, nor can I imagine meeting with, a single animal possessed of an instinct useless to the species. In man I see an animal with an extraordinarily strong instinct developed *pari passu* with the development of his mental powers. It is an instinct which he does not share with any of the lower animals; it is an instinct absolutely useless to him on this planet. Nay, it is an instinct which has led to more horrors, more bloodshed, more bodily and mental agony than all the other passions combined. But it has also led to self-devotion, heroism, self-sacrifice, to exquisite beauties of thought and feeling; to joys, hopes and consolations before which all joys and hopes and consolations of earth seem as dust in the balance. In the lowest savages this instinct is hardly existent, or, if it appear, it is in the shape of an abject fear of spirits of the dead or of the Powers of Nature. Should the religious instinct mean no more than this, as is sometimes argued, then it should die out with the advance of the race. On the contrary, it tends to become deeper, wider, more complex; it survives all fear of spirits of the dead or of the Powers of Nature; and shows itself as a longing for something beyond man—beyond this planet, beyond all joys, all aspirations

that this life can afford. Other animals are contented when their appetites are satisfied. But man, when he has risen above the savage state, is characterized by a strange unrest, which does not allow him to rest satisfied with the attainment of the most coveted of earthly possessions.

Where every other anchor drags this conviction alone holds firm ; alone inspires the scientific agnostic with a hope which need not divorce itself from reason ; the conviction that no instinct exists without a purpose, and that the very strongest instinct which has actuated humanity, which has inspired all the great religions of the world, cannot be purposeless. If it be purposeless, it constitutes an exception to an otherwise universal law.

It may be argued that the future good and happiness of mankind offer a sufficient aim for the religious instinct. George Eliot endeavored to believe that this prospect was satisfying, and she embodied her belief in lines of exquisite beauty :

" Oh ! may I join the choir invisible
Of those immortal dead who live again
In minds made better by their presence ! "

But George Eliot's mind had not developed in the atmosphere of physical science ; she could perhaps cheat herself into the thought that the prospect of self-conscious individual immortality is satisfactorily replaced by the prospect of conferring benefit upon posterity.

Zoology shows us that species are not the enduring things men once thought they were ; especially among the higher animals the study of paleontology shows species changing, passing into one another like dissolving views, and becoming extinct. We know that the palmy days of the mammals have long since passed away, and that only a few species (only, so far as I know, the genus *Equus* and *Man*) are not in their decline. Unless, then, we imagine an exception to an otherwise universal law, the zoologist recognizes that a comparatively short period must see the decline and finally the extinction of both horses and men. There is therefore very little satisfaction in thinking that ephemera living a few hundred years after us may be physically and mentally better off than we are. On the contrary, our sympathies are more likely to turn away from beings simply occupied with material comforts, to the long roll of martyrs and heroes who lived and died in the old faiths. Nor is

it easy to see how so high a type of human being could be produced where all aims and efforts must be materialistic, as was produced in those who felt that " here they had no continuing city, but who sought one to come ; a home not made with hands, eternal in the heavens. "

If we can in any way, without quitting the guidance of reason, attain to a religion from which the bloodthirsty and intolerant element has been eliminated, but in which the craving for a nobler, higher state of being can be satisfied, we shall, I think, take a position more in harmony with the most imperious instinct of our nature than by any form of Materialism. No religion will ever be trusted, no religion will ever be a stronghold of comfort, because Agnosticism offers an unendurable prospect, or because it is agreeable to believe in a God and a Saviour and the immortality of the soul—reasons often given by otherwise solid thinkers for leaving Reason and taking refuge in Faith. Religion must have a basis of truth on which we can firmly plant our feet : as a fairy tale or an opium dream, delusive though exquisitely fair, it can give no permanent support ; no real comfort.

We bear about in our bodies rudiments whose utility has long ages since passed away. There was a time, too, when our eyes existed but as specks dimly conscious of light, but not of form ; our ears, specks capable only of perceiving the simple vibrations of a fluid medium. Who could have told in the early ages of the earth that these specks of protoplasm would develop into eyes that could penetrate millions of miles into the visible universe—into ears which could be ravished with the sublimest harmonies ? Why may we not hope that the extraordinary, the unique instinct of religion, slowly evolved as it has been from the lowest fetich worship, may be the preparation for an existence of unimaginable glory in another world than ours ? Faith may be beyond the grasp of those who will not relinquish the guidance of Reason. But Hope remains to tell us that the deathless instinct of religion bids us not despair, and that " beyond the veil, beyond the veil, " when this mortal shall have put on immortality, we may retain our self-consciousness, and become more fully cognizant of an Eternal All-Good, All-Loving, but *not-all-powerful* Being, who has striven to draw us to Himself.—*Westminster Review*.

WHEN PLANCUS WAS CONSUL.

BY E. LYNN LINTON.

WE all know that the roses were redder, the summers more glorious, and that men were more honorable and women more beautiful, that life had fuller harmonies and virtues more stability, in those glad far-off days—when Plancus was Consul. In those days the poor were not so poor as they are now and the rich gave more freely of their margin; right and wrong were clearly indexed; the laws were scrupulously obeyed; there was no tampering with the accursed thing anyhow; and St. George always slew the dragon. Oh! times were good and life was fair when Plancus was Consul, for then "Love took up the harp of life and smote on all the chords with might," youth lent its magic power to sensation, and innocence conditioned all things by its own unconscious ignorance. This being so, we the elders now sitting in our arm-chairs by the fire, regret the sad changes that have been made since those happy hours when flowers were worth more than golden treasure and Astræa was the goddess ruling the world of men.

Aye? Was it even so? Was indeed the world so much more lovely and life so much more worth the living when Plancus was Consul than it is now? Or was the greater gain of those far-off days in our own youth only? Did ignorance for the one part, and freshness for the other, make the whole difference between then and now?—and were things "much as one" in the past as in the present? If human vices and virtues could be weighed, it seems to us, judging from the higher levels of knowledge and experience, that the sum would be equal though the manifestations would vary. Human nature is a pretty constant quantity, and those passions, those instincts and desires which are its motive forces, are like the permanent body within the ephemeral clothes. While the fashion of the garments changes the form underneath is untouched; and though one day the shoulders are wide and another the waist is longer, the inlying skeleton is precisely the same as it ever was.

Take the more public sins of the day when Plancus was Consul, and those of

the present *fin de siècle*. Drunkenness was then no disgrace; and vulgar, mischievous, noisy rowdiness had its aristocratic patrons and well-born supporters. What 'Arry alone would do to-day lords and gentlemen gloried in fifty and sixty years ago. A young Cambridge man would boast that for six weeks before his examination he never went to bed sober; and that he should scrape through at all, low down as he was and next door to the Wooden Spoon, told less for his ability or good luck than for the crassitude and ineptness of the examiners. The shameless debauchery of the fast youth in the 'twenties and 'thirties would not be tolerated now, if as publicly confessed as it was then. Then it went with the privileges of sex and age; and the man's mature harvest was not held to be a whit the worse for the youth's crop of wild oats duly sown and garnered.

But, in return, the mean and prying pruriency of the modern Purity School would then have ensured a batch of broken heads, thoroughly well deserved. Also, the huckstering spirit of the present day would have ostracized a gentleman as inexorably as ever the oyster shells of Athens ostracized an unpopular citizen. Our gentlemen and noblemen have stepped down from their social heights and gone into trade with the rest. It might be thought that they would have elevated the character of business and placed it on a higher platform than heretofore—that *noblesse oblige* would have been their motto behind the counter as within the ancestral hall. But we do not find it so. On the contrary; our well-born tradesmen have sunk to the level of their employment. They are not more honest, more generous, more trustworthy than the small clerk's ill-found son, who has to open a very tight shell with a very blunt knife, and go through the battle with never a shield-bearer beside him. The millionaire manufacturer adds dressing to his cotton, and cotton to his silk, with no more compunction than the miserable little grocer adds sand to his sugar and shoe-leaves to his tea. The titled milliner cheats her dear friends over their hats and bonnets

with no more searching of heart than if she had been the gardener's daughter, seeking to make a good thing of a small trade and less capital. It is all in the way of business; and the way of business is stronger than the law of righteousness and the old lessons of gentleness. This kind of thing would have been absolutely impossible to the gentleman and gentlewoman of the earlier half of this century. Wild, rowdy, drunken, dissolute—yes, that was well within the range of their possibilities; but mean and huckstering tradesmen, cheating, "sweating," robbing, lying to the four winds of heaven and degrading the English name wherever English commerce is carried—no, that would have been as impossible as the platform-woman of to-day, or the prurient spy of the New Morality.

So much good, however, counterbalances the evil of excess. The old nonsense about the impossibility of a gentleman's earning his living, save in certain covenanted professions, is at an end. Trade *per se* is no social degradation; yet I can quite well remember, in my early youth, when a rich army-contractor was not visited by the local magnates because of his past *métier*; when the superb dinners of a retired club *chef* were nets spread in vain in the sight of all the high nosed gentry of the place; and when it was gravely debated by the exclusives in possession whether those wealthy manufacturers who were buying up all the land they could lay their hands on, were to be visited like themselves and admitted into the social penetralia as to the manner born. This nonsense is now done away with, to the gain of reason and common-sense all round; but, here comes in the balance—the finer edges of what was once known as "gentlemanly feeling" have become blunted, and the code of honor is neither so white nor so clear as heretofore. We wonder at the state of the times that permitted robber-knights and marauding barons to hold a whole country in subjection, levying blackmail on all passers-by, torturing, ruining, slaying at their pleasure. But where is the difference, save in manifestation, between these and our modern promoters of swindling companies—our respectable City gentlemen who rob the servant-maid and the poor peasant of their hard-earned savings—who ruin their thousands and break

hearts as gayly as Domitian pulled off flies' wings—who reduce the affluent to penury and the prosperous to abject misery—all that they may fill their own coffers and make others pay while they dance? Save in method, there is nothing to choose between the modern City-swindler and the old-time robber-knight. The one is churchwarden and carries the alms-bag; the other built a monastery and ended his days in a cell. The rake of Hogarth's time ruined one poor maid, perhaps two; but the fraudulent bankrupt, the absconding lawyer, the promoter of a swindling company, and all the rest of the cheating crew, throw dozens of uneducated girls on to the streets, from sheer inability to get their living in any other way. Which is best? And how many hairs' breadths of difference are there among them all?

When Plancus was Consul social scandals were fewer and domestic life was purer than now. The mother was a goddess and the father a sort of king in the household, and there were no clay feet to any idol extant. How should it not be so? Who was there to tell the boy of sixteen, the girl a year younger, that a shadow rested on the father's name?—that the mother was a light o' love whose audacity was equalled only by her husband's complaisance? Who could whisper all these shameful secrets to the callow young, dancing along the rose-strewn path in happy ignorance of the very nature of vice or the meaning of shame? Who could pollute their young ears with stories of this and that—of him and her, at which the elders either sniggered in fatuous amusement or drew up their necks as stiffly as if they themselves were not tarred with the same brush? The young knew nothing of the current scandals of their time. When they grew old enough to be told, those past infamies had died away like weeds in the winter, and a new crop had taken their place. Hence, we all know the seamy side of life only from a certain period, which is to us as the first beginning and breaking forth of the undesirable; and all that went on—when Plancus was Consul—was for us as though it were not. Yet it was exactly the same kind of thing as that which goes on now; and it was we who give our own coloring to the times, not the times that were different then from what they are now.

Our recollections, too, of those times

give us a more noble teaching, as well as a purer moral atmosphere. Councils of Perfection were our everyday recommendation; and, as we said before, there was no tampering with forbidden subjects and no paltering with accursed things anywhere. It was all grand and high and noble; and—now!—what a falling off! As if that, too, does not belong to age and state!—as if all the well-nurtured young, now as well as then, are not brought up on these Councils of Perfection, and taught, Heaven bless them! that these are the rules by which they must faithfully walk, no matter what the example of others or the stress of temptation for themselves. But when they come to maturity and practical life, do they not all find that it is absolutely impossible to live by these precepts, if they are to live in the world at all? Things are no different now from what they were in our fathers' times and those of our own youth. It is only the angle that has been shifted—only knowledge which has dispossessed ignorance and experience which has lowered the standard.

This impracticable code, given to the young as their stated law of action, is analogous to the enormous waste of energy and material by which nature arrives at a very small result. Perhaps this surplussage of moral doctrine leaves a larger residuum than if only so much and so much had been inculcated. One does not know. A cup can be no more than full. What is over runs away; but is it lost? The impossible extreme—the impracticable ideal inculcated in these Councils of Perfection—is it all so much waste of energy? Would sober-sided common-sense do as well? Would the moderate bounds of pure reasonableness control the output of passion as strongly as do these unattainable ideals? If we were to teach the young things as they are, and show them from the beginning the sorry compromises which have to be made between good and evil, one of the silvery veils would be taken off that divine statue we all reverence when Plancus is our Consul, and a premature tolerance for vice would be no advantage to the world at large.

When Plancus was Consul were all women womanly and all girls modest? Hardly. Floating up through the mists of the past come vague recollections of pretty girls who cheapened themselves and

their fair fame so that the more soberly conducted were warned against them and forbidden their acquaintance—of young wives with painted faces and doubtful characters—all the same as now! Only that, when Plancus was Consul, and a careful father had to give instructions to his motherless daughters, these things were touched on with a kind of solemn reticence, a kind of awed prohibition which excluded details and merely sketched the vague outlines of shame and the forbidden. Platform-women were then scarce, and the restless, rushing tribe of globe-trotters scarcer still. Yet even before the Women's Rights craze broke out like a disease among the sex, a few strong-minded ladies of rank made speeches to their tenants; and the novelty of the proceeding guaranteed its success. Some eccentric off-shoots of good county families, too, vindicated their right to live according to the masculine pattern; and the hunting, shooting, fishing sportswoman, tramping over the moors with dog and gun, her game bag slung by her side and her flask of whiskey handy, was not quite unknown down among the heather and mountains of the North. She was a phenomenon: granted; but she was a fact and a precursor. Yet, for all these sporadic offshoots, no one can deny that women were less pronounced and less masculine when Plancus was Consul than they are now, when he has been dead and buried these sixty years or more. For our modern platform-women who smoke like men and with men, who talk on things they do not understand and base their sentimental morality on absolute falsehood and practical mischief, we had our Maids of Saragossa and Joans of Arc, our Polish countesses and Suliote women, all grace and ideality, all heroism and enthusiasm, standing on the ramparts, with floating hair and burning eyes and the sacred cry of "Freedom!" "Country!" "Liberty or Death!" on their exquisite lips; we had our Elizabeths of Siberia and Flora MacIvors, and all the brilliant cohort of the saints and heroines of romance, each one as beautiful as a dream and as impossible as a fairy princess. For our vulgar, self-advertising, literary women, who seize on every opportunity, legitimate or not, to thrust themselves to the front, and who clamor for attention on ridiculous subjects, like chattering pies pecking at a

tin pot, we had our diaphanously arrayed Della Cruscans and studious Bluestockings—our rhapsodists who played the harp and wrote poetry with their back hair down—our Anna Marias who had ink on their thumbs when a possible suitor kissed their hands, and who promised him an “epitaph gloomy and grand,” should he die before themselves.

But the most advanced and the most unwomanly of that time did not question the sanctity of marriage, nor blaspheme the function of maternity, nor prove their own purity by indecent interpretations of quite ordinary and unoffending phrases, nor boast of their emancipation from all womanly modesties in favor of *fin de siècle* license, nor overtly praise themselves in anonymous productions of which one does not know whether the audacity, the vulgarity, or the blasphemy is in greatest quantity. Nor did such travellers as we had then give descriptions of places which the inhabitants thereof prove they have never visited, nor boast of an immodesty of dress and demeanor which would then have drawn on them something more weighty than rebuke. Nor did the Lady Fanshaws and Lady Rachel Russells of the still more ancient past, repeated in certain sweet widows of the days when Plancus was Consul, seek for *kudos* for themselves by besmirching a dead husband's name, and feed their own drained hearts with the ichor of his slain repute. We did not do these things when Plancus was Consul. We had our follies and our extravagances, our sins and our backslidings, but they were habited in other garments; and these garments were not quite so ugly nor so vulgar as the modern mode.

How many things of to-day had their aura, their prefatory shadow in the things of yesterday! For instance, the scandal-mongering papers of the day seem to those who cannot remember fifty or sixty years ago purely characteristic of the immediate, noisy, prying present, and as if no pioneer had shown them the way. But when Plancus was Consul, the terrible lash of the *Satirist* made that paper an embodied scourge of the “fast lot,” as they would be called now—they were “wild” then. This paper had spies and correspondents in all the big towns, and especially in garrison towns like Chatham, with its staid sister Rochester. I never saw

a copy of the journal, but I remember my elder sisters speaking in a kind of terror-stricken whisper of a paragraph concerning two girls who had been seen with two officers by the wall bordering the Lines. That paragraph made a tremendous fluttering of the dovescotes, and gave the indiscreet the impression of an invisible Presence about them spying out their naughtiness and reporting it to the four winds of heaven. This paper was then, I believe, managed and owned by one Bernard Gregory. But all these things are naturally somewhat hazy in my memory; for Plancus was, himself, then only in a schoolboy's jacket and did not don the *toga virilis* for some years after. And what I heard was but an exemplification of the old saying about the long ears of little pitchers.

Is there more gambling now than formerly? Perhaps not; but what there is has another form. The gambling-hell about St. James's and in Regent Street (is were more doubtful and less decorous than are the card-rooms of clubs or the drawing-rooms of private houses; and Frascati's was as ruinous and as irresponsible as Monte Carlo. The woman-gambler existed even before the time of the Last Stake; and though we had no bawling, brazen-faced “bookie,” mounted on her tub and yelling out her jargon with the rest—when Plancus was Consul—no female breeders and owners with their own jockeys and their own colors; we had our quieter “operators” who made their bets and books in secret, judiciously hedging till they stood on velvet, and netting their three or four hundred as the result. We had, too, our lady speculators who bought and sold in the share market, generally to their own discomfiture. But their numbers were comparatively limited. The woman with a “good business head” was content to manage her affairs in safer and perhaps more legitimate fashion; though the men plunged on the turf, cheated at cards—and were detected—all the same then as now. But where a fork pinned the hand of the *escamoteur* to the table, an action at law lays bare the scandal now; where the rooks plucked the pigeons round the green baize in the “hells,” the clever holder of rotten shares passes them on to the credulous curates and ignorant women who are dazzled by the

glory of an elastic dividend which may—who knows?—touch the height of ten or twelve per cent.

Manners are now less coarse than they were, and less ferocious. When Plancus was Consul, if a man's self-love was hurt by an adverse criticism, he forthwith took a bludgeon and nearly belabored the life out of the unfortunate editor of the paper or magazine in which that hostile criticism had appeared. We carry the thing now into court and sue the printer and publisher for libel. This method has its advantages. It is a good advertisement and calls attention to the work. Though a costly amusement, it breaks no one's bones, and is altogether a softer, less ruffianly, more business-like method of revenge. It also equalizes the chances of that revenge between women and men. When a furious critic snorted out his diatribes in those days when Plancus was Consul—and swore by all his gods that such and such a book was not fit to be touched with a pair of tongs, it was difficult for the lady to revenge herself. Bravos are not easy to hire in England, and actions for libel were not then the mode. Now the fair victim might, and she so willed, have recourse to the law and prove by her counsel that such a dictum had damaged her property as well as her fair fame.

Some of our more rampant self-advertisers would do this as surely as they now take advantage of every circumstance that offers itself to trumpet forth their name and placard their achievements. So might the prouder kind—though they do not: the women who are insulted with opprobrious epithets and indecent parallels wherever these yelping curs can find a vehicle for attacks which are dictated by personal need more than by intellectual reprobation. And the women who suffer from the venom of these reptiles must be pardoned if they wish the rough old days were back again—the days when a stout oaken cudgel was the best argument to be had against insult.

When Plancus was Consul the Revival of religion began in both its branches of the Low and the High. Simeon at Cambridge foreshadowed the later "corybantic" development; and Keble and Pusey showed the way to those ritualistic "priests" whom the denied dogma of Papal Infallibility alone differentiates from

their Romish brethren. It was time something was done, for the Church in high places and remote districts alike was in a sadly unevangelized state. More than one of our handsome dignitaries, with a fine presence and a well-turned leg, reproduced the lax morals of the Abbé of the Regency; and down among the mountains the hedge-parson found his most striking impersonation.

Such a set of men as those hedge-parsons were in the sleepy days of the early part of this century! Not even an "excited politician" from the wilds of the distressful country could match them for ignorance, brutality, and unclerical character generally. They were in no respect better than the hinds and ploughboys they were appointed to teach, save that they could read fair print when they saw it, and write after a fashion. But in tastes, habits, pursuits, and refinement generally, they were as pigs with pigs, and beasts of burden walking without fear or guidance over dangerous passes. The services were conducted with neither reverence nor decency. At weddings and funerals the parson—he was called priest down among the mountains—got fuddled with the rest. Some of them were noted "bruisers;" some were as noted ploughmen, and drove the straightest furrow in the parish: some added to the anonymous population based on the matriarchal system; and all were as little fit to be leaders of thought or teachers of high things as the blind man is fit to be the leader of his blind brethren.

It was Bishop Percy who first set his face against these rough-hewn northern clerics, and who demanded a higher type for the dales and moors. And now those blind leaders of the blind have passed away, like the still earlier race whose stipend was made up of "guse-gate, whittle-gate, clogged shoon, and harden sark;" and the dales and moors have gentlemen as well as Christians to teach, as well as set, a more refined pattern of life to their less enlightened flocks.

Together with the awakening of the religious feeling came that of the artisan intellect. When Plancus was Consul Mechanics' Institutes began to crop up everywhere, like secular Little Bethels calling the uncovenanted to enter and learn things which the regulars did not teach. Like all good things, this movement began from within. It was not a grace bestowed—a

dole given. The skilled artisan was making his class as distinct as that of the farmer, the shopkeeper, the squireen. He was raising himself from the low level of the day-laborer, with whom he had been so long associated, and proving his claim to be considered educated, intelligent, responsible. Bit by bit and on very slender foundations, he began his Mechanics' Institutes, with their insufficient libraries and lofty aims; and the idea "caught on," as all real and righteous ideas do, and fructified into the noble institutions we see in large industrial centres—into those pleasant little village-clubs and reading-rooms which brighten up the bucolic life. Faith! there has been a stirring of the dry bones and a budding forth of withered sticks since Plancus was Consul! Men have now higher thoughts and nobler pleasures than those rude amusements which were their portion three quarters of a century ago—those drunken "merry-meets," rowdy fairs, cruel cockpits, and brutal prize-fights, which constituted the main strength of popular pastimes—when Plancus was Consul. Our modern lectures and concerts and libraries and gala nights are better than these; and in this at least we have a distinct advance over the past, and have made a wide step upward.

The troubles of the discontented poor we have always had to face; but Tower Hill to-day is not so bad as were the Chartist riots of '38—nearly two generations ago. I was young then, and not well up in political questions, but I remember the Chartist riots and the scare they created in our quiet home at the back of Skiddaw Forest, on the edge of the broad breezy Wigton Moor. The guns could be clearly heard from the top of the moor; and large bodies of the starving operatives roamed about the country and terrified the defenceless householders out of their five wits. They came to our rectory and demanded meat and money; but they were bought off by the innocent frankness of the two young girls who at that moment represented the family, and no harm was done beyond a denuded larder and short commons for the next few days.

We do better for our children now than we did when Plancus was Consul and those poor little sooty sweeps were the disgrace of our civilization and the shame

of our humanity. Perhaps it was better for the nation when we did not take the extraordinary pains we use now to keep alive the diseased and incapable—those inheritors of vice, pauperism, and all that weakens and degrades a people—when we did not spend money and lavish scientific knowledge for the creation of a social cancer, which, now that we have got it, is eating into our very vitals. Be this as it may, the "cry of the children" is not so bitter now as it was then; and society does its best to protect them, the most helpless and the most defenceless of its members. Naturally, there must always be cases of cruelty and oppression while human nature is the composite thing it is. But we mend one rent in our morals if we make another; and if some of us are sickly and irrational in our modern humanitarianism, the converse are at least not suffered to exercise their brutal instincts at will, and even parents are laid by the heels when they overstep the bounds permitted by the law.

On the whole, then, how do we stand? What has been the headway we have made since Plancus was Consul?—or have we made any at all, and not been simply going round in a circle, as is the way of most old civilizations? Balance our gains and hopes, and what is the net result? For drunkenness which brought no shame, and licentiousness at which the world winked, we have substituted sobriety as an essential part of gentleness, and a finer feeling regarding the respect a man owes himself and the sex he may love but must not degrade. *En revanche*, we have admitted the huckstering spirit of a thieving tradesman as quite compatible with the traditions of gentleness. We have swindlers in purple and fine linen; and the old-time robber-knight is translated into the successful speculator whose gold is red with the blood of his victims—the millionaire operator whose enormous pile has been amassed from the petty savings of the frugal poor.

For our Laura Matildas who swooned on the smallest provocation, we have our lady globe-trotters with no more nerves than so many cast-iron dolls; for our Della Crusicans who were all sighs and spirit—our self-advertisers ramping to the front whenever they have a chance; for our Anna Marias in diaphanous garments, apostrophizing the moon, our unsexed

Wild Women in knickerbockers and cut-away coats, boasting of their emancipation from all the sweet ties of sex; for our starched and prim British matron—women who question the sanctity of marriage, as well as women whose “marriage” is less legal than convenient, women whose sole idea of womanhood is to make it a bad travesty of manhood.

For the strong common-sense which knew that universal justice is a dream impossible to realize, and that certain individuals must suffer for the good of the community, we have the unchecked output of fads of all kinds by which every sort of individual idiosyncrasy is to have free play, to the hurt of the commonwealth and the weakening of general respect for law and conformity.

For the hard Draconian spirit, which admitted no extenuating circumstances whatever, we have unbounded sympathy with murderers and thieves; and think it a monstrous cruelty either to hang an assassin or shut him up for life. The criminal is the man to pity. If a woman, she is the one woman of all to admire. The victims were clumsy oafs who somehow put themselves in the way of danger; and to dance on a murdered man's body is an allowable expression of natural excitement.

For the roystering blade we have the White Cross spy. For the pretty miss taught to bridle and say “Plums, prunes, prism,” the girl who studies anatomy and pathology with men, and the girl who goes to a life-school and studies the nude figure also with men. For the gentlemen who understood the laws of courteous debate and the dignity due to the great Legislative Council of the nation, we have men whose pride is in the degradation of the House, and who, sitting there as lawgivers for the Empire, talk treason against the integrity of that Empire, such as once would have brought their heads to the block.

For restrictions on the uttered word and printed thought which reduced men to mere silent slaves, we have a liberty of the Press which devotes itself to the destruction of all respect for the law, all obedience to constituted authority, all patriotic sentiment, all national loyalty. These papers retry every case, always to the finding of a verdict adverse to the judgment given. They endeavor to sow the seeds of disaffection in the army, the navy, the police—to dishonor the national flag—to weaken the very foundations of society. But when they print high treason no one thinks it worth his while to bring them to book, and “it pleases them and does not hurt us” is the rule by which the world runs gayly onward.

So that, on the whole, where do we stand?—that sum of good and ill, how does it “foot up”? About equal with the sum of past times. Where we have gained one inch we have lost one, and if we have changed our clothes our bodies are just what they were. When Plancus was Consul and those red roses were so sweet, we did not know and we did not see. Life had only two dimensions for us, and depth was the third we did not understand. It was all surface, glittering, profound, real. By our own innocence we judged of the rest; and our ignorance was the measure of the world's deeper knowledge. When we came to our initiation we thought that men and not ourselves had changed. “Things are not as they were,” we said; but alas, for the dreams of human perfectibility! Things are very much what they always were; and what we say was true of our past when Plancus was Consul, our fathers said of their past when their Plancus was Consul, and youth and ignorance beautified into divinity the veiled statue of humanity.—*New Review*.

SEVEN AND THREE.

BY ARTHUR GAYE.

NEXT to names, there are few conventional symbols more fascinating to the curious mind, or more bewildering, than numbers. Whether we regard them as the working tools of arithmetic or as mere

arbitrary figures, they can hardly fail, when considered attentively, to impress us with a sense of both awe and admiration. Although to the eye they are small and feeble, they may serve to represent, as we

well know, infinitely much. In the form of statistics, for example, the population of a vast continent will occupy, in printed space, something less than a linear inch. The greatest army the world has ever seen, even the fabulous host of Xerxes, can be expressed numerically within the breadth of a thumb-nail; the most prodigious annual income in about half that measurement; the years of the longest life—nay: the extravagant pilgrimage of Methuselah himself—in one quarter of it. What is more, in three or four seconds it is possible to write down on a slate a total which no human mind can so much as imagine. In a twinkling we range far beyond our powers of computation. A whole regiment of Babbages would fail to count the billions which we are able to represent by means of the Arabic tokens while another is telling a poor score. We are accustomed to hear the infinity of time and space spoken of with a glibness which robs those mysterious phenomena of much of their real solemnity; yet we are perfectly conscious that no effort on our part can avail to make time an hour longer or space a mile wider. It is different with figures. A little reflection shows us that here, at least, we do possess a power which knows no bounds. The result, it is true, may be of no practical value, if not wholly unintelligible, to ourselves when we have produced it; but there it is, and perhaps none the less wonderful in that it conveys no definite meaning. It is strange that the Greeks, with their pantheistic leanings, encouraged no worship at the shrine of a god Arithmos. They recognized and illustrated his influence while they denied him divine honors. Many of the minor deities of both Greece and Rome were revered on weaker and more shadowy grounds than a god of Number might have fairly claimed.

If, however, no temple was dedicated to Arithmos in the abstract, there is abundant evidence to prove that not only among the Greeks but by most other peoples, ancient and modern, certain specific numbers have ever been viewed with something akin to religious, or at any rate superstitious, feeling. Hence they are often called Mystic Numbers, though the mystery which they involve will not always yield readily to inspection. They appear, as we shall see, amid sets of circumstances of great variety. Even at the present day, when

their original significance is altogether forgotten, or, at best, is reduced to the level of mere guesswork, they assert themselves in most unexpected places, the relics of a pathetic credulity which once upon a time had undoubtedly a very strong hold on men's minds. Conspicuous among them are the two whose magic it is proposed to trace, not indeed to its source, but in some of its more obvious developments. We have it on the authority of Bacon that "there is in human nature generally more of the fool than of the wise." Possibly that shrewd observer would have held that seldom, in small matters, has the predominant folly of mankind been more strongly marked than in the almost universal veneration of Seven and Three. That such a veneration has existed time out of mind, and still survives, is not to be denied. Consciously or unconsciously, to this day we are charmed by a spell which first began to work when all the world was young.

To the theological student the frequent recurrence of the number Seven is well ascertained, or easily ascertainable. If he is sceptical, let him consult a Concordance. He finds it in Genesis, and he finds it in Apocalypse. Between those extremes he is constantly coming upon new examples of the same strange preference. Although modern geologists have taught us to believe that the "days" of the Creation were probably periods of time to be represented by nothing short of thousands, perhaps millions, of years, they have not hitherto seriously attempted to shake our faith in the number of such periods, howsoever protracted they may have been. We are still free to accept the assurance that they were six, and that on the seventh the Creator rested from His work. Some of us, also, are inclined to suppose that from the story of the Creation has been deduced the hebdomadal division of days into weeks. Others think that this is due to lunar observation, which naturally, they argue, led to a division of the month into periods of seven days, or four quarters of seven days each. According to Dion Cassius, the Egyptians were the first to refer those days to the seven planets. Be this how it may, it cannot be disputed that the first total of which we read in Holy Writ is Seven. A little farther on in Genesis sevenfold vengeance is denounced on the slayer of Cain, if such a one should be found. Pharaoh's

dream of the kine and the ears of corn is familiar to the least biblical of readers. Balaam, again, demands seven altars, and, for victims, seven bullocks and seven rams. Seven years did Jacob serve for Rachel; and seven times, in his nervous apprehension, he bows himself before the outraged Esau. Nebuchadnezzar's furnace was heated "one seven times more than it was wont to be heated" for the faithful Three. Seven priests with seven trumpets marched round the doomed Jericho. Seven times did Elijah's servant look, at his master's bidding, seaward. For no special reason that we can detect, Seven was the chosen number of Deacons. In the Book of the Revelation we should expect to find most frequent reference to whatever is mystic and symbolical, numbers included; nor are we disappointed. The very first chapter introduces us to the Seven Churches of Asia, the seven golden candlesticks, and the seven stars; and throughout the book the same numerical identity is constantly meeting us. The Bible, in short, in both Old and New Testaments, and in Apocrypha to boot, is full of similar instances: from the seven "of every clean beast" taken into the Ark to the sluggard who is wiser in his own conceit than "seven men that can render a reason," from Jethro's seven daughters to Sceva's seven sons. There is no need to multiply instances. Those who care may read and count them with little trouble in Cruden and his editors.

Nations which had nothing else in common with the Hebrews were equally addicted to this numeral. One of the earliest tales of the Heroes celebrates the disastrous expedition of Polynices and his six companions against Thebes, the subject of a Play of Æschylus, and the origin of the modern nickname "Septem Contra Christum" given some years ago to the authors of *Essays and Reviews*. The starry firmament was laid under contribution for several chapters of the old mythology. Thus the Pleiades furnished one legend, the Hyades another, and the Great Bear or Seven Plough-oxen a third; and in all three the same odd number is prominent. In Roman History the tradition of the early kings is no longer accepted as literal fact. Like many another fable once implicitly believed, it has been unable to withstand the sieve of nineteenth-century criticism. There it is, nevertheless; and

the kings are seven, even as the hills which their city eventually covered. Wisdom, again, was held to have resided pre-eminently in that favored band which has ever since been familiar to us as the Seven Sages. The Wonders of the World—those, that is to say, of man's own contrivance; for the mightier achievements of Nature were not yet regarded—were not in ancient time permitted to exceed the same numerical limit. It was not once or twice stronger, but seven times, that the giant Antæus grew for each contact with his mother-earth; it was seven youths and seven maidens that formed the periodical tribute paid to the inexorable Minotaur.

Leaving mythology, and turning to what is more or less accredited fact, we need still be at no loss for illustrations. We may notice the seven-days fête in honor of Apis, the Egyptian deity. Herodotus, among the many scraps of information, authentic and otherwise, which he brought away with him from the banks of the Nile, mentions a mode of plighting faith in vogue with the Arabs of the desert. "When two men would swear a friendship," he says, "they stand on each side of a third: he with a sharp stone makes a cut on the inside of the hand of each near the middle finger, and, taking a piece from their dress, dips it in the blood of each, and moistens therewith seven stones lying in the midst." It is useless to speculate as to what may have been the mystical significance of such a ritual. Who knows whether it is even yet extinct?—for the Ishmaelites are not given to change. The same love of the lucky Seven is, at any rate, to be traced in the religious belief of those who, so many centuries later, inhabit those dreary wastes. Votaries of the Moslem faith recognize an inferior class of angels, called Moakkibat. Two of these are appointed to keep watch over every mortal, one on either hand. Islam teaches that at the close of each day the attendant spirits fly up to heaven with a detailed account of their ward's proceedings. Every good action is recorded ten times; but when a sin is committed the one says to the other, "Forbear for seven hours to record it: peradventure he may repent and pray and obtain forgiveness." The creed of the Mussulman likewise provides for seven stages in the place of punishment after

death, which may be reasonably compared with Dante's somewhat similar plan of seven *gironi* in his *Purgatorio*, and the patristic scheme of seven cardinal virtues and as many vices. Finally, who has not heard of the seventh heaven?

In addition to those instances, which for the most part bear on myth and religion, there are many Sevens which refuse to be classified under any special head. We may, if we please, regard them as mere coincidences or as unconscious imitations of a partiality which has existed from time immemorial. In any case, they are curious and interesting; and they are of almost infinite variety. If, for example, we look into a catalogue of chapbooks, the chances are that we are very soon confronted with *The Seven Wise Masters of Rome* or *The Seven Famous Champions of Christendom*. If we look at a family of young children we are reminded, if we still retain our Aristotle and Quintilian, that seven is the age at which those thoughtful men, both of them well experienced in the instruction of youth, recommended that a child's education should begin. Again, the Seven Ages of man appear to us a perfectly natural division of human life, and we are quite willing to fall in with the theory that our bodies are wholly renewed every seven years until they reach the grand climacteric. Our popular fairy-tales make great capital out of their Sevens and Threes. How many legendary families consist of seven brothers and a sister, or of three brothers, of whom the youngest invariably wins the highest honors in the end, usually marrying the king's daughter and living in ideal happiness ever afterward? Who fails to recall the strange adventures of the man who made a memorable journey to St. Ives and met by the way an extraordinary number (but always a multiple of seven) of "kitts, cats, sacks, and wives"? What are we to say of the two Acts which have been passed in the course of our history to regulate the duration of a British Parliament? Is it for nothing that they are known to us as the Septennial and the Triennial? To what fascination is it owing that they were not the Biennial and the Quinquennial? There is not much sentiment, as a general rule, to be extracted from a legal document, and mysticism is the very thing which it seeks, though not always with success, to exclude. How is it, then,

that leases are so often drawn for seven, fourteen, or twenty-one years? Perhaps, after all, the gentlemen of the long robe are unwittingly encouraging a prejudice which was in full bloom many centuries before either lease or lawyer arose. An equivalent coincidence, if it be nothing more, we may distinctly trace in most of the old indentures by which apprentices were bound. A servitude of seven years was the rule, almost without exception; and it obtains to this day. Even arithmetic itself is not without symptoms of the influence exercised by the weird number. In logarithmic tables the results are commonly worked out to seven places of decimals, and no farther. The die of the Roman gambler, like that of his British representative, was so marked that the sum of the dots on any two opposite faces was always seven. The musical scale is another case in point. It is to the combinations of a simple series of seven notes that we primarily owe the masterpieces of Mozart and of Beethoven.

In the very place-names of the world this characteristic has often been turned to account. Thus, Middle Egypt was called by the Greeks *Heptanomis*; and *Septempeda*, now *San Severino*, was a Roman municipium in the territory of Picenum. In modern geographical nomenclature we have the Rhenish *Siebenbirge*, the Sardinian *Sette Fratelli*, and our own *Sevenoaks*, *Sevenhampton*, *Seven Sisters*, and many others. In Evelyn's *Diary*, under date October 5, 1694, we read: "I went to see the building near St. Giles, where seven streets make a star from a Doric pillar placed in the middle of a circular area." This, in after years, became the notorious Seven Dials. It would be easy to go on adding to the list indefinitely.

Instances enough have been cited to prove that, whether by accident or by design, Seven has always been a favorite numeral: sometimes with a symbolical flavor, as in the masonic Seven Stars; sometimes with a mythical, as in the Seven Sleepers; sometimes with a comical, as in Touchstone's famous "quarrel on the seventh cause."

It is time to pass on to the consideration of that other number which, while in its usage it resembles Seven, is yet more closely interwoven with our ideas, both sacred and profane. Besides being the

most solemn symbol in various religious creeds, it enters with ridiculous pertinacity into endless subjects of our daily conversation.

The number Three was regarded as possessing a mystic significance by many ancient people—notably by the Assyrians and Egyptians—and the modern Chinese go so far as to attribute to it omnipotent creative virtue. According to the Chinaman's theory, One produced Two, Two produced Three, and Three produced all things. A somewhat similar doctrine is that of a writer quoted, not without derision, by Archbishop Whately. "This threefold constitution of ideas," he says, "is universal. Three-in-one is the law of all thought and of all things. Nothing has been created, nothing can be thought, except upon the principle of three-in-one. Three-in-one is the deepest-lying cipher of the universe." Without waiting to expound this dogma, we may admit that no number is so generally as Three associated with the various religious systems which have been in vogue throughout the world's history. Besides the Christian Trinity, there have been Assyrian triads, sundry Hindoo threefold combinations, such as that of Brahmah, Vishnu, and Siva, and others well known to students. It is not, however, the theological importance of the number that most peremptorily arrests our attention. What is even stranger, and perhaps more generally interesting, is that this little numeral is perpetually cropping up in every conceivable connection. It is obviously nature's favorite, and it occurs more frequently than any other in the purely artificial classifications of man.

In those epidemics of genius which, from time to time, have illumined a specially-favored age or people, this peculiarity has always been very strongly marked. Æschylus, Sophocles, and Euripides were all born within a period—brief for the exhibition of such a galaxy of dramatic talent—of five-and-forty years, and Greece gave us no other tragic poet of any note. In like manner, her three greatest philosophers followed each other in rapid succession, the second being the pupil of the first, even as the third sat at the feet of the second; and there have been none in later or in earlier times worthy to be placed in the same rank with Socrates, Plato, and Aristotle. It is the same with

the classics of mediæval Italy. It has been truly said of Dante, Petrarca, and Boccaccio, that they are the three main sources of the beautiful, the true, and the great in Italian literature. In the very words of the critic, "*i tre fonti principali onde si deriva tutto ciò che han di bello, di vero, e di grande le lettere italiane.*" Yet from the *Divina Commedia* to the *Decameron* there was a space of barely fifty years. Even when we range farther afield and cover many centuries of history, we find the same fatality not seldom exemplified. Take the "three poets in three distant ages born." Will there ever be a fourth whose epic shall dispute the palm with that of Homer, or with that of Virgil, or with that of Milton? Where shall we look for the founder of a creed which is any way comparable, whether in popularity or in intrinsic merit, with Christianity, Islam, and Buddhism, the three systems practised, with greater or less strictness, by more than nine tenths of the world's population? Ethnographers are accustomed to divide mankind into three great families, which, they say, are indicated by Nature herself; while all terrestrial objects, animate and inanimate, are referred to one or another of the three so-called Kingdoms which, in truth, represent, each one of them, a realm more densely populated than that of any human sovereign.

If we turn to the old mythology, the Three bias is there, as we very soon discover, in still greater force than the Seven. Mythology is a museum of trios. What consternation would ensue were it suddenly brought to light that, after all, there was a fourth Grace! An addition to, or subtraction from, the number of the Furies we might possibly endure; but it would seem little short of sacrilege were we constrained to tamper with the roll-call of the Fates. Who could ever bear to add one to the grim company of Clotho, Lachesis, and Atropos, or to impair the triple perfection of Euphrosyne and her sisters? The Sirens, the Harpies, the Gorgons, again, all attest the favor with which the mysterious Three was regarded long before history and chronology came into being. The Judgment of Paris turns on precisely the same point, and the Judgment of Paris must now be something like three thousand years old. In the pale kingdoms of Dis we are met by the three-

headed Cerberus, and the bench of three Judges, Minos, Rhadamanthus, and Æacus, or, as some say, Achilles, the name of one of whom at least has passed into a proverb for justice without mercy. It is here, too, that we find Hecate, the title in the lower world of a goddess known on earth as Diana, and on high as Luna. Moreover, her chapels are wont to be erected, as a subordinate name, *Trivia*, indicates, at the junction of three ways. Perhaps the famous riddle of the Sphinx, which only an Ædipus could solve, owed its celebrity in same measure to its tripartite character. The legend of the Sibylline books certainly loses none of its mystery or interest by the prominence it gives to Three and its multiples, for is not the same number inseparably connected with the groundwork of our own religious belief? We readily recognize its peculiar fitness as a symbol of profound solemnity. Similarly, we accept without demur the tale of the Horatii and Curiatii—not implicitly believing that such a contest ever really happened, but welcoming the mystic number of combatants on either side as being in harmony with our own estimate of triads. The birth of a mighty nation is heralded, happily enough, by the introduction at the outset of an internecine conflict, if conflict there must be, between powers of Three. With equal satisfaction we acquiesce in the story of Horatius and his two comrades who so doughtily withstood the assault of Lars Porsena “in the brave days of old.”

We apportion our earth among three zones, and mathematical formulæ remind us at every turn of the natural propensity of geometrical figures to fall into classes which are too many for two and not enough for four. The triangle, which is significant of so much, may be taken as the basis of threefold division. Of all symbolical figures it is probably the most popular. Its mathematical value is proved by the fact that it gives its name to a complete branch of geometrical study. Its angles can be measured in three ways, and only three; according to the size of those angles, it is acute, or right-angled, or obtuse; according to the proportionate length of its sides, it is equilateral, or isosceles, or scalene. Similarly, the sections of the cone result in the parabola, the hyperbola, the ellipse; and the algebraical progressions are three. Above all,

there are the three dimensions; and the ingenuity of many generations of mathematicians has not hitherto availed to discover, with any approach to certainty, a fourth. In mensuration we reckon by linear, square, and cubic feet; our weights are troy, avoirdupois, and pharmaceutical.

Grammar, to some minds the least sentimental of all known studies, tells a like tale. Dry and unsympathizing though it be, it cannot resist the all-pervading influence of one, two, three. Its genders, persons, numbers, voices, follow the common rule; its positive, comparative, and superlative degrees can never be exceeded or curtailed. Its cases, it is true, are in Aryan languages usually more than three; but in the original system, the Sanscrit, which has the full complement, including locative and instrumental, they may be fairly called seven, for nominative and vocative are really one; and seven and three are both mystic numbers. Logicians and grammarians between them have decided that every proposition may be so dissected that ultimately it becomes simply subject, predicate, and copula. Logic itself exhibits the products of thought as terms, as propositions, as inferences; and a syllogism consists of two premisses and a conclusion. Mathematics, in its narrow modern sense, consists of arithmetic, algebra, and geometry.

In fact, look where we will, the irrepressible self-assertion of this numeral is continually forced upon our notice, or would be so forced if we were not long habituated to its prevalence and its utility. Dating, as we have seen, from the dim distance of the mythological age, and passing through the several regions of religious faith, history, and science, it has finally entered into all the details of common life, and is now quite indispensable. If the idea of Three were suddenly expunged from the human brain, we should be in the dark. The Christian doctrine could no longer be taught; the division of governments into despotisms, limited monarchies, and republics, would become meaningless; we should be unable to appreciate the formula of “King, Lords, and Commons.” We should be lost as regards precedence in the orders in our Church: we could no longer distinguish bishop from priest, or priest from deacon. Churchmen High, Churchmen Low, and Churchmen Broad would become hope-

lessly jumbled. Even the main arteries of modern Christianity, the Protestant, the Romish, and the Greek, would cease to be distinguishable. We should have to abandon the favorite legend of the Three Kings of Cologne; gold, frankincense, and myrrh would be bereft of their significance; faith, hope, and charity would be an impossible sisterhood. The Three R's once formed the brief bill-of-fare of the humblest education. Board School French and pianos have caused us to enlarge our ideas in this respect, and the *Dreikaiserbundniss* (expressive word!) of reading, writing, and arithmetic is dissolved. It leaves us, however, an inexhaustible stock of instances. Take away our Three, and where would be our botanical arrangement of annuals, biennials, and perennials? What would become of the farmer without his rotation of grain, grass, and roots? What notion could be formed of Nelson's victories, won with three-masted ships carrying three tiers of guns—a threefold cord which was not quickly broken? The schoolboy would be puzzled to attach its due import to the terrible line:—

"Aut disce, aut discede; manet sors tertia, cædi."

Nothing, in short, could compensate us for the disappearance of Three. That once gone, a good half of our most fondly-cherished conceptions, if not more, would be irretrievably wrecked. It is scarcely too much to say that in Three, and what Three involves to us, the essence of our life, spiritual and secular, reposes. Any numeral could be more cheerfully dispensed with. Number 1 might be removed. As individuals we should probably feel the difference; but the world at large would not be incommoded. The obliteration of Number 2 would entail a readjustment of matrimonial relations, and peradventure a relapse into polygamy, together with other difficulties which would not be smoothed away in a minute. Without Three we should be altogether helpless. Being neither beneath the loftiest intellect nor above the lowest, it is the total into which our imagination naturally falls. Whether we regard it in the aspect of A, B, C, or in that of Sun, Moon, and Stars, we feel instinctively that it is, and must always be, essential not only to our well-being, but to our being at all.

We shall, however, be better able to es-

timate its value if we proceed to enumerate a few of the commonplace examples in which we have long been pledged to its use; otherwise it might, perhaps, be supposed that only in scientific classifications or other like divisions of a more or less abstruse character could its frequency be fairly noted. We have not far to look. Every time we take a railway journey we are brought face to face with the invidious process of distinguishing passengers by means of a sliding scale of fares and accommodation. It was not thus in the very earliest days of railway enterprise, which contemplated only two grades of customers. Soon, nevertheless, the irrepressible hankering after a *tertium quid* made it necessary to enlarge the programme; and we have now for many years enjoyed the privilege of a first class, a second, and a third. The same principle is brought home to us by the division of time in the scholastic world. The three terms in the year, though not to the advantage of parents' pockets and boys' prospects, are now universal. Among the publishers, again, the same influence, subtle and mysterious, has long been busily at work. What are the books chiefly read in this country, and in what shape are they issued to the public? They are three-volume novels. The few books which venture to appear in a less pretentious form are merely the exceptions. There is no obvious reason why the great majority of novels should not be compressed into a single volume. It is to this condition that they invariably descend if their performance in the fashionable pattern shall have proved encouraging. Why are they *ter*-voluminous in the first instance? According to Chesterfield, a novel is "a little gallant history, which must contain a great deal of love, and not exceed one or two small volumes." The heroes and heroines of our most modern fiction comply with the first half of the definition; but they are apt to overstep the limit prescribed in the second. They are fond of bold type and bolder margins, more worthy of some grand classic than of the lives and loves of characters created to day and forgotten to-morrow.

The good old fashion of sign-boards, which once swung over every shop door, is now practically confined to those houses which deal mainly in fluid comforts—fluid, and fleeting also. We may deplore

this monopoly on the part of the licensed victualler; but the historical interest of the signs is as great as ever. Here the number Three is once more in the front rank. There are on record no fewer than sixty-nine examples of it in this company. Here we find the "Three Angels," and there the "Three Merry Devils;" in one street the "Three Admirals," in the next the "Three Washerwomen." An exhaustive catalogue of the patron saints thus set forth in triplicate would be tedious; but it includes Ravens, Roses, Turks, Tuns, Crowns, Squirrels, Hats, and Black-birds. The complete list is to be read in Hotten's elaborate *History of Sign-boards*. There is one, however, which deserves especial mention. This is the "Three Legs," once the sign of Thomas Cockerill, a bookseller, over against Grocers' Hall, in the Poultry. It represented, of course, the Manx arms; and, in order to accentuate the mysticism, Mr. Cockerill, we are told, was in the habit of describing the house, on the title-pages of his publications, as the *Three Legs and Bible*. The wit of the combination, it must be owned, is not visible on the surface. Possibly he was thinking of the three parts of the Bible—Old Testament, New Testament, and Apocrypha—each of which might be fancifully viewed as a moral and religious "leg," or support. Some element of relevancy must surely have lurked in the legend. The improved edition of the sign is no longer popular; but the Legs without the Bible still proclaim certain alehouses. Perhaps, amid the circumstances, it is as well that they have parted company. The "three balls" are a familiar symbol above the portal of an establishment which with us corresponds to the Parisian *Mont de Piété*. It may be thought that they would be fitly superseded by the warning inscribed over the entrance of Dante's *Inferno*. In these highly educated days it is scarcely needful to add that, instead of being, as was once commonly believed, the arms of Lombardy, they formed part of the armorial bearings of the Medici, from whose states, and from Lombardy, the first bankers came. Their influence may be traced in the name and in the business of Lombard Street. The Balls were originally blue, and it is only within the present century that they have been gilded. According to Mr. Hotten, the popular interpretation

of their existence (for they lost their ancient significance long ago) is that there are two chances to one that whatsoever passes under them will never be redeemed.

Nature has made our lives, past, present, and future; and moralists in all ages, from Socrates to the All Souls' dial, with its "*Pereunt et imputantur*," have impressed upon mankind the solemn message of time and his tenses. The Romans kept up some semblance of a tripartite division by means of their monthly Kalends, Nones, and Ides, while later nations have had recourse to seven-day weeks. It is quite possible, however, to point to traces of the inborn love of Three in our modern computation of time also, and even in business matters, where its fascination might have been expected to have little scope. In the operation known as "bill-discounting" allowance is made for what are called days of grace, three of which are granted before payment can be legally claimed. In London, and perhaps in the provinces, one of the most usual arrangements for letting houses is on a three-years agreement. A more extended tenancy involves a lease, as above noticed, for seven, fourteen, or twenty-one years—an association of the two mystic numbers. It is remarkable that in so prosaic a domain as that of the house-agent these two should be precisely the numbers which enter most frequently into our calculations. Of late years, again, the ruling passion has asserted itself in that popular, but possibly not over-wise, method of doing business so widely advertised as "the three-years system." Why not two, or four or five? Some "odious" force, of which they were themselves unconscious, compelled the piano-dealers and furniture-brokers to fix on three, and an arrangement which included for this purpose a greater period or a less would now be regarded with suspicion. Who ever got up and proposed two or four "cheers for the Queen"? The very crier thrice delivers, or delivered, his Norman "*Oyez!*" Instinctively the auctioneer, in his most moving tones, delays the inevitable end with his "going, going,—gone!"

We are much attached to the principle of three grades in our dignities, whether civil or military. The mayor of the county town has aldermen and councillors under him, and Government offices almost invariably employ three classes of clerks.

Nay: are there not—*parvis componere magna*—three grades in the Most Honorable Order of the Bath, which, after all, derives its title from nothing grander than the homely ablution which preceded the installation of knights—for cleanliness was not always next to godliness! Its motto, too, is "*Tria Juncta in Uno*." There are three stages of generalship; of admiralty, likewise, three. A Parliamentary Bill is in similar plight: thrice must it issue triumphant from the strife of Parties before it can become law. So it is with matrimony, according to the rubric of the Established Church; for, unless the mean advantage of a license be taken, the banns of the contracting parties must be thrice published before the ceremony can be performed. Despite continual protest, the only public vehicles available in the streets of London are the omnibus, the "growler," and the hansom. There is the tram; but it more fitly belongs to another triad, the two other members of which are the ordinary railroad and the electric development of more recent times. Our medium of currency is succinctly written £ s. d. Our very beer is marked X, XX, XXX. If, unhappily, we enjoy no privilege like that embodied in the *Jus trium liberorum* of Roman law, we are, on the other hand, no longer liable to a *trinoda necessitas*. We have the unrestricted use of pen, ink, and paper, which privilege makes our newspaper press alike the most free and the most honorable in the world; while the liberty of the subject is so untrammelled that our public parks, on every Sunday in the year, are the happy hunting-ground and rostrum of the tag, rag, and bobtail of the Metropolis. Whatever the music may be, a major or minor third is seldom absent.

Finally, the titles of books, especially of novels, tend to show that the race of fiction-mongers is not impervious to the same magnetic attraction. In former times, as has already been mentioned, we had the "Seven Champions of Christendom" and other examples of the septenary influence; and recently there has been a decided revival in favor of Three. The books of which this monosyllable helps to form the superscription are not, as a rule, among the immortal works of our greatest authors. What they lack in quality, however, they supply in numerical strength. To mention them all in detail would be to

transcribe some pages of a library catalogue. For the sake of brevity, we may begin with Trollope's *Three Clerks*, continue with Black's *Three Feathers*, and conclude with *Three Men in a Boat*, or *Soldiers Three*. This practice is quite consistent. Many authors deliver not only their titles, but their pet sentiments also, with reference, implied or expressed, to the unseen power. While one writer assures us that happiness consists in the judicious union of a faith, an occupation, and a home, another says that we must not look for success unless we can command confidence, ability, and opportunity. This is the *ter beatus* of the poets. The makers of proverbs are seldom to be discovered. Their handiwork, as we know, "is one man's wit, and all men's wisdom," and, therefore, soon becomes public property; but they, too, whosoever they were, made capital out of our two numerals. "Seven brothers in a council," the Spaniard says, "make wrong right;" "Three know it, all know it," the Italian found; that "Three removals are as bad as a fire," we ourselves are quite convinced.

Pliny, the naturalist, if occasionally rather wide of the mark, is always observant and suggestive. "*Cur imparis numeros*," he asks, "*ad omnia vehementiores credimus?*" If he had given an answer to his own question we should have been forever grateful. Alas! he is silent. He merely cites as an example of the superior energy of odd numbers the fact that on those days men's fevers are invariably worse. He cannot explain the tertian. Modern physicians cannot explain why typhoid fever reaches its crisis on the seventh day, or on the fourteenth, or on the twenty first. Pliny was probably not conscious that his *Historia Naturalis* was itself published in the seventy-seventh year of the Christian calendar, perhaps the "oddest" that was open to him in his generation. What would he have thought of that famous Lambach Church, triangular, three-towered, three-windowed, having three doors, three façades, three organs, three altars in marbles of three colors, three sacristies, costing, it is said, 333,333 florins, and dedicated to the Trinity? The force of superstition could surely go no further. He knew, however, the story of Cæsar, who, having had a carriage accident, secured a safe journey

ever afterward by means of a simple expedient—*carmine ter repetito*.

By this time, all save the most hardened sceptic must confess how persistently the Seven and the Three have entered, and do still enter, into human affairs. Instances are so common, so ready to our hand, that, as Rosalind suggests to Orlando, we are not "gravell'd for lack of matter." Such an extraordinary array of coincidences must really point to a common principle. What that principle, or prejudice, may be, we cannot with certainty determine. A faint glimmer of it, however, we can discern. We are not quite in Cimmerian darkness. We cannot exclaim joyfully, with Teufelsdröckh, "*Es leuchtet mir ein!*" We feel, rather than know, that it is not owing to mere chance that those two remarkably odd

numbers enter so frequently into mortal calculations. We are sometimes told that Seven is often used in the Bible to express an indefinite number. Who can answer the plain question, "Why?" In the Book of Job a precise account is given of that patriarch's possessions both before and after the grievous trial in the course of which his three friends—three again—comforted him so sorrowily. We read that his latter end was more blessed than his beginning. His flocks and herds were exactly doubled. The number of his family, however, and the proportion of males and females, remained exactly the same, as if incapable of improvement. Moreover, both number and proportion are significant. "He had also Seven sons and Three daughters."—*National Review*.

SCENERY AND THE IMAGINATION.

BY SIR ARCHIBALD GEIKIE, F.R.S.

THE more marked features on the surface of the land have from early times awakened the curiosity and stimulated the imagination of men. Mountainous regions with their peaks and crests where cloud and tempest find a home, their rugged scarps of cliff and crag, whence landslips sweep down into the valleys, their snows and frosts, their floods and avalanches, their oft-repeated and too frequently disastrous shocks of earthquake, supply the most striking illustrations of the influence of the external world on human development. Yet while it is in these elevated parts of the earth's surface, where the activities of nature seem to beat with a more rapid pulse, that the human imagination has been more especially stimulated, even among the comparatively featureless lowlands the influence of outer things, though less potent, may be distinctly traced. Wherever, for instance, the monotony of a lowland landscape is broken by an occasional oddly-shaped hill, by a conspicuous grassy mound, by a group of prominent bowlders, by a cauldron-shaped hollow, or by a river chasm, we may expect to find that these diversities of scenery have from time immemorial arrested attention.

Whatever departs from ordinary usage

and experience prompts, even among the rudest people, a desire for explanation. The more striking elements of topography accordingly aroused the curiosity of the earliest races who came to dwell among them. In the infancy of the world the forces of nature were more or less mysterious to men. They were looked upon as manifestations of superior beings, whose conflicts or co-operation were held to account for the changes of the external world. Thus, by a system of personification that varied from clime to clime, primeval mankind surrounded itself with invisible deities, to each of whom some special function in the general government and progress of the world was assigned.

Hence the problems presented by the more impressive details of the scenery of the earth's surface were in truth among the earliest with which the human race began to deal. If we try to discover how they were first approached, how their treatment varied, not only with peculiarities of race and national temperament, but with conditions of climate and variations of topography, we are led backward into the study of some of the most venerable efforts of the human imagination, which, though now in large measure faded or vanished, may yet be in some slight de-

gree recovered from the oldest mythologies and superstitions. In many of the early myths we may recognize primitive attempts to account for some of the more prominent features of landscape or of climate. And as we trace the variations of these legends from country to country, we learn how much their changes of dress have arisen from local peculiarities of environment.

Of the earlier interpretations of nature we can partially judge from the fragmentary evidence that has come down to our own time. Some of them may be in some degree restored from a comparison of ancient myth and superstition with the physical characters of the regions wherein these legends took their rise, or where, at least, they assumed the forms in which they have been transmitted to later ages. Others have survived in place-names which, still in common use, connect our own generation with the days of our ancestors.

In pursuing the investigation of this subject we soon perceive, however, that the supernatural interpretations, and the tendency to personification which led to them, began to be supplanted by natural explanations founded on actual observation of the outer world, and that this change of view, commencing first with the few observant men or philosophers, made considerable way among even the ordinary populace, long before the decay of the mythological systems or superstitions of which these primæval supernatural interpretations formed a characteristic part. The growth of the naturalistic spirit was exceedingly slow, and for many centuries was coeval with the continued vigorous life of religious beliefs which accounted for many natural events as evidence of the operations of supernatural beings.

Those features of the outer world which most attract attention were the first that appealed to the observing faculty of mankind. Among these the elements of topography obviously hold a foremost place, including, as they do, the most frequent and impressive manifestations of those natural agencies whereby the surface of the land is constantly modified. It was impossible that after men had begun to observe, and to connect effects with causes, they should refrain from referring the resultant changes of landscape to the working of the natural processes that were seen or inferred to produce them. They

were led to trace this connection even while their religious belief or superstition remained hardly impaired. The conclusions thus popularly reached were sometimes far from correct, but inasmuch as they substituted natural for supernatural causes, they undoubtedly marked a distinct forward step in the intellectual development of man.

From that time onward the influence of scenery on the human imagination took a different course. The gods were dethroned, and the invisible spirits of nature no longer found worshippers; but it was impossible that the natural features which had prompted the primæval beliefs should cease to exercise a potent influence on the minds of men. This influence has varied in degree and in character from generation to generation, as we may see by comparing its place in the literature of successive periods. Probably at no time has it been more potent than it is at the present day.

To discuss fully this wide subject would demand far more space than can be given to it here. I propose, therefore, to select two portions of it only; one from the beginning and the other from the end of its historical development. I shall try to show by reference to primitive myth and early legend what were the first and most obvious effects of the more prominent elements of topography on the imagination, and what they are or should be now in the midst of modern science and universal education.

The mythology of Ancient Greece supplies many illustrations of the way in which the physical aspects of the land have impressed their character on the religious beliefs and superstitions of a people. The surface of that country is almost everywhere rugged, rising into groups of hills and into chains of lofty mountains which separate and inclose fertile plains and valleys. The climate embraces all the softness of the Mediterranean shores together with the year-long snows and frosts of Olympus on the one hand, and the almost sub-tropical heat of the lowlands of Attica on the other. The clouds and rains of the mountains have draped the slopes with umbrageous forests, and have spread over the plains a fertile soil which has been cultivated since before the dawn of history. Thus, while a luxuriant vegetation clothes the lower

grounds with beauty, bare crags and crests are never far away. The soft and the harsh of nature, the soothing and the repulsive, are placed side by side. The indolence begotten of a teeming soil and sunny clime is quickened by proximity to the stern mountain-world—the home of thunder-clouds, tempests, and earthquakes. In the childhood of mankind, the physical features of such a country could not fail to react powerfully upon the imagination of those who dwelled among them, calling forth visions of grace and beauty, and at the same time imparting to these visions a variety and vigor which would hardly have been developed among the dwellers on monotonous plains. The natural influence of scenery and climate like those of Greece upon the imagination of a race endowed with a large share of the poetic faculty has never been more forcibly or gracefully expressed than by our own Wordsworth, in a well-known passage in the fourth book of his *Excursion*.

With the source of the early Hellenic myths we are not so much concerned in the present inquiry as with the form in which they have reached us. Whether they arose in Greece, or, having been brought from some other home, received their final shape there, is of less moment than the actual guise in which we find them in the earliest Greek literature. There cannot, I think, be any doubt that to the striking topography of Thessaly they are largely indebted for the dress in which they appear in the poems of Homer and Hesiod. We may recognize among them some of the earliest recorded efforts of the human imagination to interpret the aspects of nature, and these aspects were unmistakably such as presented themselves in that particular portion of the ancient world.

The wide Thessalian plain, the largest area of lowland in Greece, lies upon Cretaceous and Tertiary rocks, which, in the lower parts of the region, are overlain with a level tract of alluvial soil. Round this plain stretches a girdle of lofty and imposing mountains, composed chiefly of hard crystalline schists and limestones. On the north the crags and snowy crests of Olympus rise high and bare above the dense forests that clothe the slopes. To the eastward, across the narrow chasm of Tempe through which the drainage of the

great inland basin escapes to the sea, the gray peak of Ossa forms the northern end of a long chain of heights which, farther south, mount into the ridge of Pelion. Along the southern edge of the plain another vast mountain barrier sweeps eastward from Mount Pindus through the lofty chain of Othrys to the sea.

No other part of Greece presents such diversities of topography and of climate as are to be found within the region thus encircled with mountains. The peaceful beauty and spontaneous fertility of the plain offer an impressive contrast to the barren ruggedness of the surrounding heights. High above the gardens, meadows, and corn fields, sharply-cut walls and pinnacles of white limestone mount out of the thick woodland into the clear upper air. Nor is evidence wanting of those catastrophes which from time to time convulse the mountain region. At the base of the bare cliffs and down the rocky declivities lie huge blocks of stone that have been detached by the weather from the precipices above. And, doubtless, from time immemorial the dwellers on these slopes have been familiar with the crash and tumult of the landslide, and with the havoc wrought by it on forest and field. Along the mountain-ridges, too, clouds are every gathering, and thunderstorms are of continual recurrence. The lightnings of Olympus are visible from Othrys, and to the inhabitants of the intervening plain the incessant peals and reverberations from the northern and southern ranges might well sound like shouts of mutual defiance from the two lines of lofty rampart, as where, in a more northern clime

"Jura answers from her misty shroud
Back to the joyous Alps that call to her
aloud."

If to these daily or frequently returning meteorological phenomena we add the terrors of an occasional earthquake, such as affect most mountainous countries and are known to have shaken different parts of Greece within historic times, we perceive how favorable the conditions of environment must have been for exciting the imagination of an impressionable people. Whether, therefore, the early Hellenic myths arose in Hellas, or came from elsewhere, they could hardly fail in the end to betray the influence of the surroundings

amid which they were handed down from generation to generation. The snowy summits of Olympus, rising serenely above the shifting clouds into the calm, clear, blue heaven, naturally came to be regarded as the fit abode of the gods who ruled the world. The association of that mountain-top with the dwelling-place of the immortals, first suggested to the imagination of the early settlers in Thessaly, passed outward to the utmost bounds of the Hellenic world. Everywhere the word Olympus came to be synonymous with heaven itself.

In the myth of the Gods and the Titans, as handed down in early Greek poetry, the influence of Thessalian topography is abundantly conspicuous. The two opposite mountain ranges of Olympus and Othrys became the respective strongholds of the opposing hosts. The convulsions of that ten years' struggle, whether suggested or not by the broken features of the ground and the conflicts of the elements, assuredly took their poetic coloring from them. The riven crags piled in confusion one above another, the rock strewn slopes, the trees uprooted by landslips, the thunder-peals that resound from the misty mountain-chains, seem still to tell of that primæval belief, wherein the Titans were pictured as striving with frantic efforts to scale the heights of Olympus by piling Ossa on Pelion, hurling huge rocks and trees through the darkened air, and answering the thunderbolts of Zeus with fierce peals from the clouds of their lofty citadel. In the magnificent description of Hesiod, beneath all the supernatural turmoil we catch, as it were, the tumult of a wild storm among the Thessalian hills, with such added horrors as might be suggested to the imagination of the poet from the recollection or tradition of former earthquake or volcanic eruption.

Long after the time of the primitive mythology the more striking features of the land continued to appeal to the Hellenic imagination and to perpetuate the prowess of gods and heroes, even down to generations of men among whom belief in these legends was already beginning to grow dim. The narrow gorge of Tempe may be cited in illustration of this influence. Cleft between the precipices of Olympus and Ossa, and serving as the only outlet for the drainage of the wide Thessalian plain, this chasm must have arrested the attention of the earliest settlers, and

certainly continued for many centuries to be one of the most noted valleys of the Old World. The contrast between the vast level plain through which the River Peneius and its tributaries wander, and the narrow gorge through which the accumulated waters issue; the apparently insurmountable barrier interposed across the course of the stream; the singular and unexpected ravine by which the drainage is allowed to escape to the sea; the naked fissured walls of white limestone on either side of the narrow pass, even now powerfully impress the observant traveller of to-day. These striking features could not fail to appeal to the imagination of the old Greek. From early times it was recognized that the plain of Thessaly had once been covered with a sheet of water, of which the remaining portions formed two considerable lakes. Had no passage been opened for the outflow of the drainage across the barrier of mountains the plain would have remained submerged. The cleaving of a chasm whereby the pent-up waters were allowed to flow down to the sea, and thus to lay bare so wide an area of rich land for human occupation, was looked on as the work of some benevolent power and naturally came to be associated with the name of Poseidon, the God of the Sea.* In later times, when the deeds of gods and heroes began to be confounded with each other, the supernatural character of the Vale of Tempe was still acknowledged; but the opening of the cleft was in course of time transferred to Hercules, who, by cutting a hollow across the ridge, allowed the stagnant waters of the interior to flow off into the sea.†

Prominent hills and crags in other parts of Greece gave rise to legends or became the localized scenes of myths which had floated down from an older time, and sometimes perhaps from another birth-place. Thus the hill Lycabettus, that stands so picturesquely on the northeast of Athens, suggested to the lively fancy of the early Athenians a record of the prowess of their patron-goddess. When Athens, so the legend ran, was founding their state and wished to strengthen the city, she went out to Pallene, a demos

* Herodotus, vii. 129.

† *Diod. Sic.*, iv. 18. See also *Lucan, Pharsalia*, vi. 345.

lying to the northeastward, and procured there a great hill which she meant to place as a bulwark in front of the Acropolis, but on her way back, hearing from a crow of the birth of Erichthonius, she dropped the hill, which has remained on the same spot ever since. Legends of this kind, but varying in dress with local topography and national temperament, may be found all over the world.

To the early Greeks the West was a region of marvels. It lay on the outermost bounds of the known world, where the sun descended beneath the earth and where Atlas supported the vault of Heaven. By degrees as the spirit of colonization drew men in that direction, the occidental marvels of the first voyagers faded away before a more accurate knowledge of the Mediterranean shores. But the legends to which they had given rise remained in the popular mythology, and served as subjects for chroniclers and poets.

Thus the two singular masses of rock in which, at Gibraltar and Ceuta, the European and African continents respectively terminate, and which form, on each side of an intervening strait, only some seventeen miles wide, a kind of gateway for the vast Mediterranean basin, naturally fixed the attention of the early navigators on those distant waters, and filled a prominent place among the travellers' tales from the distant West. They took their part in the myths, becoming the "pillars of Hercules," that were erected by this legendary explorer and knight-errant as an eternal record of his labors and of the ultimate limit of his wanderings. The details of the story vary. By some narrators the hero was represented as having narrowed and shallowed the strait and built his pillars on the two sides to keep the huge monsters of the outer ocean from entering the Mediterranean sea. By others he was believed to have actually excavated the strait itself, and by thus separating Europe and Africa, previously joined together, to have allowed the waters of the ocean and those of the inner sea to mingle.*

In a mountainous country, where the streams, swollen by sudden or heavy rains,

sweep down much detritus into the valleys and plains, the great changes of topography thus produced impress the imagination and dwell in the memory of the inhabitants. In Greece, the myths that gathered round the Achelous—the largest and most famous river in the country—probably arose, as Strabo showed, from the varying operations of the stream itself. The stories of the river-god assuming the form of a bull and of a serpent, his contests with Hercules, and the loss of his horn, are obviously only personifications of a rapid stream, rushing impetuously from its mountainous birthplace and winding in twisted curves across the plain; now strewing the meadows with gravel, now curbed by the laborious construction of embankments, and now bursting forth again to resume its old wayward course.* The river still retains the character which prompted its ancient legends. It is now called the Aspropotamo or white river, from the abundance of white silt suspended in its water and lying on its bed. While in winter, fed by the rains and melting snows of distant Pindus, it often fills its channel from bank to bank, it shrinks in summer into a number of lesser streams, which wind about in a broad gravelly channel.

In the myths that grew round other rivers of ancient Greece, we may recognize similar early attempts to account for striking features of local topography. When, for instance, Hercules is fabled to have barred back the river Cephissus and to have submerged and destroyed the country about Orchomenos in Bœotia,† we may doubtless recognize the traditional record of some prehistoric inundation, perhaps an abnormal rise of the singularly variable Lake Copais, whereby a large tract of land was flooded; possibly even an attempt to account for the lake itself.

But there was one physical feature which, more than any other, must have impressed the imagination of the dwellers by the Mediterranean shores; and that was furnished by the volcanic phenomena so characteristic of the great depression between Europe and Africa. Among the

* *Diod. Sic.* iv., 18, who allows his readers to choose which version of the legend they prefer.

* See *Strabo*, x. 458. *Diodorus* also (iv. 35), giving a similar interpretation of the legends, tells us how Hercules hollowed out a new bed for the Achelous, thereby reclaiming a vast tract of exceedingly fertile land.

† *Diod. Sic.*, iv. 18.

islands of the *Ægean* sea, some were continually smoking; others retained, in their cinder cones and ashy slopes, the memorials of subterranean fires not long extinguished. From time to time actual eruptions took place, with their accompaniments of convulsion and terror. We know from geological evidence that one of the most violent volcanic explosions which have affected the Mediterranean basin took place where now is the island of Santorin, after the original site was inhabited by a civilized people.* A conical volcanic mountain—an eastern Vesuvius or Etna—stood on that site, but in some pre-historic age it was blown into the air, as happened at Krakatoa in August, 1883, only portions of the base of the cone being left to form the present semi circular ring of islands. Whether this stupendous catastrophe occurred after the Hellenic race appeared in the *Ægean* area has not been determined. But the tradition of it may have lingered in the district, down to the time when, about two hundred years B.C., a new volcano rose from the sea in the centre of this group of islands. Another marked eruption occurred in the year 46 B.C. Even in our own day, this ancient vent has shown renewed activity, fresh eruptions have taken place from the middle of the engulfed crater, and another central volcanic cone is gradually rising there.

The Greeks, thus accustomed to volcanic phenomena among their own islands, were prepared to accept the stories brought to them from the remote West of far more colossal volcanoes, and more gigantic and continuous eruptions. Like the accounts of other physical phenomena imported from that distant and half mythical region, the tales of the volcanoes were no doubt at first more or less exaggerated. The adventurous voyagers who, sailing as far as Sicily and the *Æolian* Islands, saw the noble snow-capped cone of Etna, loftier than the mountains of Hellas, yet emitting smoke by day and a glare of fire by night; who watched Stromboli continually in eruption; who perchance beheld the land convulsed with earthquakes, the air darkened with volcanic dust, the sea covered with cinders and ashes, and who only with much effort were able to steer their vessels into opener water, would bear eastward with them such tales of horror as

would not fail to confirm and increase the popular belief in the national mythology, and might even suggest new myths or new versions of those already current. The greater size and vigor of the volcanoes would tend to create the impression that other characteristics of the region were on a similarly exaggerated scale. Sicily was accordingly believed in Homeric times to be the home of a gigantic race of shepherds—the Cyclops.

It is obvious how the legend arose of the hundred-armed giant Typhæus or Enceladus, who was fabled to lie buried beneath Etna. The belching of the volcano suggested to the popular imagination, which so loved to personify the powers of nature, the gasping of an imprisoned monster. The tremors so constantly affecting the ground in Sicily were his quiverings as he lay on his uneasy, burning bed, and the earthquakes that from time to time shook the island marked how he tried now and again to shift his position there.

As intercourse with the West made the volcanic phenomena of that region more familiar, the mythological interpretation underwent gradual modification. On the one hand, it was observed that eruptions from Etna, sometimes disastrous enough when they occurred, took place at irregular and often widely separated intervals. On the other hand, it was noticed that among the *Æolian* Islands, which lay to the north, within sight of the Sicilian volcano, subterranean rumblings and explosions were of daily occurrence. The Cyclops of older time being no longer extant above ground came to be transferred in popular fancy to the underground regions as associates of Hephaistos or Vulcan. The incessant commotion below the surface suggested the idea of a subterranean workshop where these beings were employed in forging the thunderbolts of Jove and in making arms and implements for other gods and heroes. Accordingly the belief gradually spread over the ancient world that the god of fire had his abode under Sicily and the neighboring islands.

Further, the abundant discharges of steam and vapors both in the quiescent and the active phases of volcanic eruptivity, suggested that somehow wind was imprisoned within the earth, and led to the myth which represented the god of the winds as having his home in the same subterranean caverns.

* Fouqué, *Santorin et ses Eruptions*, chap. iii.

It has often occurred to me that one phenomenon connecting the meteorological conditions of the atmosphere with the volcanic activity of the *Æolian Islands* must have early attracted attention, and would not improbably react on mythological beliefs in that part of the Mediterranean basin. Though continually in a state of eruption, *Stromboli* is said to be more especially active when atmospheric pressure is low. Its clouds of steam and discharges of stones are most marked before or during stormy weather, and are consequently more conspicuous in winter and spring than in summer and autumn. The fishermen of the region say that they can use the cloud-cap of that volcanic cone as a trustworthy indication of the kind of weather to be expected. In Roman times, this increase of subterranean excitement in the early part of the year had, I think, received a supernatural interpretation. It was looked on as evidence that at that season *Vulcan* and his *Cyclops* were specially busy over their furnaces, forging the thunderbolts that the Father of gods and men was to use during the ensuing summer. Thus *Horace*, when joyously enumerating to his friend *L. Sextius* the signs that winter is giving way to spring—the disappearance of ice and hoar-frost, the coming of the balmy west wind, the release of the cattle from their stalls and of the farmer from his fireside, the advent of the goddess of love, and the dances of the nymphs and graces under the bright moon—adds that now is the time

“When fiery *Vulcan* lights anew
The *Cyclops*’ glowing forge.” *

Long before these fables had ceased to be tacitly accepted by the people, they had begun to be rejected by the more thoughtful men in the community. There slowly grew up a belief in the settled and continuous sequence of nature.† In the midst of the schemes that were devised for explaining the old myths or making them fit into the widening experience of later ages, we may detect the dawn of the scientific spirit. Observant men were now able to recognize that what had been regarded by their grandfathers as evidence of supernatural agency, might well have been produced by natural and familiar

processes of change. The early geographers afford us some interesting illustrations of the growth of this naturalism. Thus, *Herodotus*, in his excellent description of the physical geography of *Thessaly*, takes occasion, as a man of his reverent spirit naturally would, to mention the popular belief that the striking gorge of *Tempe* had been rent open by a blow from the trident of *Poseidon*. He admits the likelihood of the explanation, but immediately proceeds to state his opinion that the formation of this defile was not an abnormal manifestation of divine power, but was to be regarded as an example of the ordinary system of the world. “Whoever believes,” he says, “that *Poseidon* causes earthquakes and rents in the earth will recognize his handiwork in the vale of *Tempe*. It certainly appeared to me to be quite evident that the mountains had been there torn asunder by an earthquake.” *

Coming down some four centuries later we find that in *Strabo*, while all allusion to the supernatural has disappeared, the formation of the topography by natural causes is described with as much confidence as if the events were vouched for by documentary evidence. “When the present chasm of *Tempe*,” he remarks, “was opened by the shocks of an earthquake, and *Ossa* was torn away from *Olympus*, the *Peneius* flowed out through this passage to the sea, and thereby drained the interior of the country.” † He speaks also of the two lakes *Neasonis* and *Bœbeis* as remnants of the large sheet of water which had originally covered the lowlands of *Thessaly*.

The myths and legends of the Teutonic races supply many illustrations of primitive attempts to account for some of the more striking external phenomena of nature. In comparing these interpretations with those of the Greeks, we cannot fail to perceive the influence of the different scenery and climate amid which they took their birth. The dwellers in the west of *Scandinavia* spent their lives under the shadow of lofty, rugged fjelds, surmounted by vast plains of snow. They were familiar with the gleam of glaciers, the crash of ice-falls, the tumult of avalanches. Cloud and mist enshrouded them for weeks together. Heavy rains from the broad

* *Cam.* I iv. 7.

† See this subject fully discussed by *Grote*, *History of Greece*, vol. i.

* *Book vii.* 129.

† *Book iv.*, v. 2.

Atlantic swelled their torrents and waterfalls. Out of the dark forests, the naked rock rose in endless fantastic and suggestive shapes. The valleys were strewn with blocks of every size detached from the cliffs above. Mounds of earth and stones, like huge graves, mottled the lower grounds over which they had been dropped by old glaciers and ice-sheets. It was a region difficult of access and hard to traverse, stern and forbidding in aspect, abounding in gigantic, fantastic, and uncouth features, while the harshness of its topography was but little tempered by that atmospheric softness which sometimes veils the rocky nakedness of sunnier climes.

Away from the great mountain-tracts of Norway, though the topography was on a diminished scale, there were many features similar in kind, and fitted to awaken like fancies in the minds of those who dwelt among them. The hill groups that rise out of the great Germanic plain, such as the Hartz and the detached heights of central Scotland, though far less imposing than the Scandinavian fjelds, abound nevertheless in picturesque details. Along the sides of their cliffs, especially in the narrow valleys by which they are traversed, crags and pinnacles of odd and often imitative shapes rise one above another. Solitary boulders, unlike any of the rocks around, are strewn over the hills and scattered far across the plains. Green, grassy mounds, like gigantic earthworks, or groups of sepulchral tumuli, stand conspicuously on the bare heathy moors. And when to these singular natural features there is added the strangely impressive influence of the clouds, mists, and other meteorological conditions that mark the changeful climate of western Europe, we are presented with such a combination of effective causes as might well stimulate the fancy of an imaginative people, and might, among the members of the great Teutonic family, evoke feelings and superstitions not less characteristic than those of ancient Greece.

The grandeur and ruggedness of the scenery of these western and northern European countries, and the frequent sombreness of the climate are faithfully reflected in the prevalent Teutonic myths and superstitions. Thor and his mallet found a congenial home among the Scandinavian mountains and fjords. There, too, was the appropriate haunt of the Frost-

giants. The race of giants, with their fondness for stones and rocks, to whom so much influence in altering the external aspects of nature was ascribed by the Teutonic races, might have had their ancestral abode among the crags and defiles of the northwest, but they readily naturalized themselves among the less rugged tracts of northern Germany and of Britain. The dwarfs, trolls, fairies, and hill-folk who dwelled under the earth and in caves, and who played a distinct though subordinate part in changing the surface of the land, would find appropriate haunts wherever the Teutons established themselves. Thus the personification of natural forces and the effects produced by the supernatural beings so pictured to the imagination, bear a marked family likeness all over the west and northwest of Europe.

There is, moreover, one feature that distinguishes the myths and legends of those northern lands—the grim humor which so often lights them up. The grotesque contours of many craggy slopes where, in the upstanding pinnacles of naked rock, an active imagination sees forms of men and of animals in endless whimsical repetitions, may sometimes have suggested the particular form of the ludicrous which appears in the popular legend. But the natural instinct of humor which saw physical features in a comical light, and threw a playful human interest over the whole face of nature, was a distinctively Teutonic characteristic.

A few examples from the abundant collection that might be gathered must here suffice. Some of the most singular features of the landscapes of the northwest of Europe arise from the operations of the ice-sheets, glaciers, and icebergs of that comparatively late geological period to which the name of the Ice Age is given. The perched boulders which stand poised near the verge of cliffs or scattered over the sides and summits of hills, everywhere suggested the working of supernatural agency. In some districts they were looked upon as missiles hurled by giants who fought against each other. In others, they were regarded as the work of giant-esses, or "auld wives," as they were called in Scotland, who to exhibit their prowess would transport masses of rock as large as hills from one part of the country to another.

This capacity in such supernatural beings

to carry huge burdens of stone or earth has furnished an explanation of many islands and mounds along the maritime parts of Britain and the countries bordering the Baltic Sea. Ailsa Craig, that stands so picturesquely in the middle of the Firth of Clyde, was the handiwork of a carline, who, for some object which is not very clear, undertook to carry a huge hill from Scotland to Ireland. Before she had got half-way over, her apron-strings broke and the rock fell into the sea, whence it has projected ever since as the well-known island. In proof of the legend a hollow among the Carrick hills is pointed out as the place from which the mass of rock was removed.

Along the Baltic coasts many similar tales are told. Thus the island of Hven was dropped where it stands by the giantess Hvenild, who wished to carry some pieces of Zealand over to the south of Sweden. Sex seems to have counted for little in the nature or amount of work accomplished, for witches and warlocks, giants and giantesses, were equally popular and equally powerful. A mighty giant in the Isle of Rugen, vexed that, as his home stood on an island, he had always to wade from it when he wished to cross over to Pomerania, resolved to make a causeway for his greater convenience. So, filling his apron with earth, he proceeded to carry out his purpose, but soon the weight of his burden broke out an opening in the apron, and such a quantity of stuff fell out as to form the nine hills of Rambin. Stopping the hole, however, he went on until another bigger rent was torn open, from which earth enough tumbled to the ground to make thirteen of the other little hills that now appear in that district. But he succeeded at last in reaching the sea with just enough of earth left in the apron to enable him to make the promontory of Prosnitz Hook and the peninsula of Drigge. There still remained, however, a narrow passage between Pomerania and Rugen which he had no material left to bridge over, and so in a fit of rage and vexation he fell dead, and his undertaking still remains incomplete.* The geologist who has studied the singular forms and distribution of the "glacial drift" can best appreciate this and similar attempts to account for

the shapes and grouping of these still enigmatical mounds and ridges.

The progress of Christianity extirpated the pagan gods and giants, but failed to destroy the instinctive craving after a supernatural origin for striking physical features. This surviving popular demand consequently led to gradual modification of the older legends. In Catholic countries the deeds of prowess were not infrequently transferred to the hands of the Virgin or of saints. Thus at Saintfort, in the Charente region, a huge stone that lies by the river Ney is said to mark where the Virgin dropped from her apron one of four pillars which she was carrying across. In Britain, and especially in Scotland, the devil of the Christian faith appears to have in large measure supplanted the warlocks and carlines of the earlier beliefs, or at least to have worked in league with them as their chief. All over the country "devil's punch-bowls," "devil's cauldrons," "devil's bridges" mark how his prowess has been invoked to account for natural features which in those days were deemed to require some more than ordinary agency for their production.

These popular efforts to explain physical phenomena which, from the earliest days of human experience, have appealed most forcibly to the imagination, have survived longest in the more rugged and remote regions, partly, no doubt, because these regions have lain furthest away from the main onward stream of human progress, but partly also because it is there that the most impressive topographical features exist. The natural influence of mountain-scenery upon the mind is probably of an awe-inspiring, depressing kind. We all remember the eloquent language in which Mr. Ruskin depicts what he calls the "mountain gloom." Man feels his littleness face to face with the mighty elemental forces that have found there their dwelling-place. Even so near our own time as the later decades of last century men of culture could hardly find language strong enough to paint the horrors of that repulsive mountain-world into which they ventured with some misgivings, and from which they escaped with undisguised satisfaction. Even when we make every allowance for the physical discomforts inseparable from such journeys at that time, when neither practicable roads nor decent inns

* See Grimm's *Deutsche Mythologie*, i. 502.

had been built, it is clear that mountain-scenery not only had no charm for intelligent and observant men, but filled them with actual disgust. Not until the present century did these landscapes come into vogue with ordinary sightseers. Only within the last two or three generations have mountains begun to attract a vastly larger annual band of appreciative pilgrims than ever crowded last century along what was called the "grand tour." For this happy change we are largely indebted to the Alpine ascents and admirable descriptions of the illustrious De Saussure on the Continent, and to the poetry of Scott and Wordsworth in this country.

It is interesting to inquire how, after the popular feeling has thus been so entirely transformed, mountainous scenery now affects the imagination of cultivated people who visit it, whether impelled by the mere love of change or by that haunting passion which only the true lover of mountains can feel and appreciate. Even under the entirely changed conditions of modern travel and general education, we can detect the working of the same innate craving for some explanation of the more salient features of mountain-landscape that shall satisfy the imagination. The supernatural has long been discarded in such matters. Even the most unlearned traveller would demand that its place must be taken by scientific observation and influence. But the growth of a belief in the natural origin of all the features of the earth has grown faster than the capacity of science to guide it. Nowhere may the lasting influence of scenery on the imagination be more strikingly recognized than in the vague tentative efforts of the popular mind to apply what it supposes to be scientific method to the elucidation of these more impressive elements of topography. The crudest misconceptions have been started and implicitly accepted, which, though supposed to be based on observation of nature, are in reality hardly less unnatural than the legends of an older time. They have nevertheless gained a large measure of popular acceptance because they meanwhile satisfy the demands of the imagination.

To the geologist whose duty it is to investigate these questions in the calm dry light of science there is no task more irksome than to combat and dislodge these popular, preconceived opinions, and to

procure an honest, intelligent survey of the actual evidence of fact upon which alone a solid judgment of the whole subject can be based. It is not that the evidence is difficult to collect or hard to understand. But so vividly does striking topography still appeal to the imagination, so inveterate has the habit become of linking each sublime result with the working of some stupendous cause, and of choosing in this way what is supposed to be the simplest and grandest solution of a problem, that men will hardly listen to any sober presentation of the facts. They refuse to believe that the interpretation of the earth's surface, like that of its planetary motion, is a physical question which cannot be guessed at or decided *a priori*, but must be answered by an appeal to the evidence furnished by Nature herself.

For this antagonism geologists are, no doubt, chiefly themselves to blame. While the growth of a love of natural scenery, and especially of that which is lofty and rugged, has been late and slow, the desire to ascertain the origin and history of the various inequalities of surface on which the charms of scenery so largely depend, and by careful scrutiny to refer these inequalities to the operation of the different natural agencies that produced them, has been later and slower still. Men had for several generations explored the rocks that lie beneath their feet, and had, by laborious and patient effort, deciphered the marvellous history of organic and inorganic changes of which these rocks are the record, before they seriously set themselves to study the story of the present surface of the land. And thus what was one of the earliest problems to interest mankind has been one of the latest to engage the attention of modern science.

This slowness of development, though it has allowed much misconception to grow up rank and luxuriant, has been attended with one compensating advantage, inasmuch as the various branches of inquiry into which the discussion of the problem resolves itself have made rapid progress in recent years. We are thus in a far better position to enter on a consideration of the subject than we were a generation ago. And though one may still hear a man gravely expounding familiar topographical features much as his grandfather would have done, as if in the meanwhile no thoughtful study had led to a very dif-

ferent interpretation, these popular fallacies, which manifest such vitality, can now be combated with a far wider experience, and a much ampler wealth of illustration from all parts of the globe.

The various elements of a landscape appear to the ordinary eye so simple, so obviously related to each other, and often so clearly and sharply defined, that they are not unnaturally regarded as the effects of some one general operation that acted for their special production; and where they include abrupt features, such as a ravine or a precipice, they are still popularly believed to be in the main the work of some sudden potent force, such as an earthquake or volcanic explosion. There is a general and perfectly intelligible unwillingness to allow that scenery which now appears so complete and connected in all its parts was not the result of one probably sudden or violent cause. Yet the simplest explanation is not always necessarily the correct one. In reality, the problems presented to us by the existing topography of the land, fascinating though they are, become daily more complex, and demand the whole resources of geological science. They cannot be solved by any rough-and-ready process. They involve not only an acquaintance with the recent operations of Nature, but an extensive research into the history of former geological periods. The surface of every country is like a palimpsest which has been written over again and again in different centuries. How it has come to be what it is cannot be told without much patient effort. But every effort that brings us better acquainted with the story of the ground beneath our feet, and at the same time gives an added zest to our enjoyment of the scenery at the surface, is surely worthy to be made.

These remarks lead me naturally to the concluding section of my subject, in which I propose to inquire how far the discoveries of science have affected the relation of scenery to the imagination. It has often been charged against scientific men that the progress of science is distinctly hostile to the cultivation alike of the fancy and of the imagination, and that some of the choicest domains of literature must necessarily grow more and more neglected as life and progress are brought more completely under the sway of continued discovery and invention. We hear these

complaints now in the form of a helpless and hopeless wail, now as an angry and impotent protest. That they are made in good faith, and are often the expression of deep regret and anxious solicitude for the future of some parts of our literature cannot be doubted, and in so far they deserve to be treated by scientific men with hearty respect and sympathy. But is there really anything in the progress of science that is inimical to the cultivation of the imaginative faculty and the fullest blossoming of poetry? The problems of life—love and hope, joy and sorrow, toil and rest, peace and war, here and hereafter—will be with us always. From the days of Homer they have inspired the sweet singers of each successive generation of men, and they will continue to be the main theme of the poets of the future. As for the outer world in which we live, the more we learn of it the more marvellous does it appear, and the more powerfully does it make its mute appeal to all that is highest and best within us. And, after all, how little have we yet learned! How small is the sum of all our knowledge! It is still and ever must be true that, in the presence of the Infinite, "the greater our circle of light, the wider the circumference of darkness that surrounds it." When the man of letters complains that we have dethroned the old gods, discarded the giants and witches, and erected in their place a system of cold and formal laws that can evoke no enthusiasm, and must repress all poetry, has he never perceived how a true poet can pierce, as our late Laureate could, through the mere superficial technicalities into the deeper meaning of things, and can realize and express, in language that appeals to the soul as well as to the ear, the divine harmony and progressive evolution which it is the aim of science to reveal? Let me ask such a critic to ponder well the sonnet of Lowell's:—

"I grieve not that ripe knowledge takes away
The charm that nature to my childhood
wore,
For, with that insight, cometh, day by day,
A greater bliss than wonder was before:
The real doth not clip the poet's wings;
To win the secret of a weed's plain heart
Reveals some clue to spiritual things,
And stumbling guess becomes firm-footed
art."

It will not, I think, be hard to show that in dissipating the popular misconcep-

tions which have grown up around the question of the origin of scenery, science has put in their place a series of views of nature which appeal infinitely more to the imagination than anything which they supplant. While in no way lessening the effect of human association with landscape, science lifts the veil that hides the past from us, and in every region calls up a succession of visions which, by their contrast with what now presents itself to the eye and by their own unlooked-for marvels, rivet our attention. Scenes long familiar are illumined by "a light that never was on land or sea." We view them as if an enchanter's wand were waving over us, and by some strange glamour were blending past and present into one.

Let me try to illustrate these remarks by three examples culled from the scenery of each of the three kingdoms. First, I would transport the reader in imagination to a lonely valley in the far west of the county of Donegal. The morning light is sparkling in diamonds from the dewdrops that cluster on the bent and heather, and is throwing a rainbow sheen across each web of gossamer that hangs across our path as we climb the long rough slope in front. Around are bare bleak moorlands, too high and infertile for cultivation, from the sides and hollows of which the peasants dig their fuel. The signs of human occupation grow fewer and fainter as we ascend. The barking of the village dogs and the shouts from the school playground no longer reach our ears. And while we thus retire from the living world of to-day, it almost seems as if we enter into progressively closer communion with the past. Yonder, only a few miles to the north, lies the deep hollow of Glen Columbkille—that western seclusion where tradition records that St. Columba, the great apostle of the Scots, in his earlier years, loved to bury himself for meditation and prayer. Mouldering cross and crumbling cairn, to which latter every pious pilgrim adds a stone, keep his memory green through the centuries. It is with him and his courageous friends and disciples, rather than with sights and sounds of the present time, that we feel ourselves in contact here. And when, high up on this bare mountain-side, we come upon the ruined cells which these devoted men built with their own hands out of the rough stones of the crest, and

to which they betook themselves for quiet intercourse with Heaven, amid the wild winds and driving rains of these western hills, the halo of human courage and self-denial falls for us on this solitude to heighten its loneliness and desolation.

Musing on these memories of the past, we find ourselves at last at the top of the slope, nearly two thousand feet above the sea, and discover that from this lofty summit, which is known as Slieve League, the ground plunges down on the other side in a succession of precipices into the Atlantic Ocean, which stretches from the far western horizon up to the very base of the crags beneath our feet. We have in truth been climbing a mountain whereof one half has been cut away by the sea. What a picture of decay here presents itself! We peer over the verge of the cliffs, still wrapped in their morning shadows, and mark how peak, ridge, and wall of flinty quartzite, glowing in tints of orange, yellow, and red, uprear themselves from the face of the declivity, like the muscles on the limb of some sculptured Hercules, as if the mountain had gathered up its whole strength and knit its frame together to defy the fiercest assaults of the elements. But look how every crag is splintered, how every jutting buttress is rent and creviced, how every ledge is strewn with blocks that have fallen from the naked wall above it! If we detach one of these loosened blocks and set it in downward motion, we may watch it plunge into the abyss, flash from crag to crag, career down the screes of rubbish and make no pause until, if it survive so far, it dashes into the surge below. What we can thus carelessly do in a few moments is done deliberately every winter by the hand of Nature. Slowly but ceaselessly this vast sea-wall, swept by Atlantic storm, sapped by frost, soaked with rain, dried and beaten by sun and wind, is being battered down under the fire of Nature's resistless artillery.

So far the scene is one that requires no special acquaintance with science for its appreciation. The man of literature, who may most disparage the man of science, may well affirm that here they meet on common ground and have equal powers of reception and enjoyment. Nor will he be gainsaid if he claims that for the enjoyment of the distant view he is likewise quite as well equipped as the other. His

eye, too, can range over the whole glorious panorama of sea and land, across the wide bays to the hills of Mayo, among which the noble cone of Nephin rises like a distant Vesuvius; southward to the terraced heights of Sligo, with their green tablelands and gleaming cliffs, which look away to the western ocean; eastward and northward, over the billowy sea of hills that stretch through Donegal round again westward to the Atlantic. What is there of note in such a landscape, he may demand, which he, ignorant of science, misses? What added pleasure, what brighter light, can science cast over it?

By way of reply to these queries, let me ask the reader who has thus far accompanied me to turn from the distant view to what lies beneath his feet on the bare, stony, wind-swept summit of Slieve League. Never shall I forget my own astonishment and enthusiasm when, in company with some of my colleagues of the Geological Survey, I found the splintered slabs of stone lying there to be full of stems of fossil trees, belonging to kinds which occur abundantly in the sandstones below our coal-measures. The geologist will at once appreciate the full meaning of this discovery. It showed that, perched on the summit of this mountain, some two thousand feet above the sea, lay a cake, only a few acres in extent, of that division of the Carboniferous rocks called the Millstone grit—a formation which spreads over a large tract of country farther to the east. Here, in the far west of Ireland, in the very heart of the region of the ancient crystalline schists, and occupying the highest ground of the district, lay a little remnant, which demonstrated that a sheet of Millstone grit once stretched over the northwest of the island, and may have extended much farther westward over tracts where the Atlantic now rolls. And as the Millstone grit is followed by the Coal-measures, the further inference could be legitimately drawn that the Irish coal-fields, now so restricted in extent, once spread far and wide over the hills of Donegal, from which they have since been gradually denuded. Truly the woes of Ireland may be traced back to a very early time, when not even the most ardent patriot can lay the blame on the invading Saxon.

That little cake of grit on the top of Slieve League stands as a monument of

waste so continued and so stupendous as to be hardly conceivable. It proves that the northwest of Ireland was buried under a sheet of strata many hundreds of feet thick, and that, inch by inch, this overlying mantle of solid stone has been worn away, until it has been reduced at last to merely a few scattered patches of which that of Slieve League is the most westerly. Not only so, but the present system of hill and valley is thus demonstrated not to be part of the primeval architecture of the earth, but to have come into being after that upper envelope of Carboniferous rock had begun to be removed. What a marvellous series of pictures is thus presented to our imagination. Standing on that bare mountain-top, we think of the ages represented by the quartzite of those craggy precipices below, then of the time when the region lay beneath the waters in which the coal jungles spread over a large part of Ireland. We try to realize how these jungles sank foot by foot beneath the sea, how sand and silt were heaped over them, and how, in course of ages, this submerged area was once more upraised into land. But we fail to form any adequate conception of the lapse of time required for the long succession of changes that followed. We only know that, slowly and insensibly, by the fall of rain, the beating of wind, the creeping of ice-fields, and the surging of the ocean, hollow and glen have been carved out, hill after hill has emerged, like forms from a block of marble under the hand of a sculptor, that ravines have been cut out here and crags have been left there, until, at last, the whole landscape has been wrought into its present forms.

We look once more down the face of the precipices, now lit up by the advancing sun, and, though everywhere upon their ruined surface we mark how—

“Nature softening and concealing,
Is busy with a hand of healing”—

crusting the bare rock with golden lichen, or hiding its rawness under a cover of richly tinted weather stains, we none the less perceive the sure signs of constant and inevitable decay; we recognize the working of the same forces that have sculptured the whole landscape, far as well as near; and we feel awed in presence of this revelation of the continuity of law

and of the potency even of the unregarded operations of nature when they have had untold ages in which to accomplish their appointed work.

I should like now to transport the reader to a wholly different scene, that we may consider together some of the more obvious features in the landscapes of the south coast of England. At the western end of the Isle of Wight, a long ridge of chalk-down, which stretches completely across the island, runs out to sea, and terminates in the well-known white pinnacles of the Needles. From the highest part of the ridge, when the air is clear, the eye ranges southward over a vast expanse of open sea. To the west and north the breadth of water is bounded by the blue hills of Dorsetshire, the white cliffs of Swanage Bay, and then the long low brown heights which are crowned with the spires of Bournemouth and Christchurch. Eastward we note how the ridge on which we stand sinks down into the hollow of Freshwater Gap, but rises again on the farther side, and then striking inland for some miles, sweeps round to form the heights of St. Catherine's, nearly 800 feet high, whence it descends once more in white cliffs to the sea.

On a summer noon, when a fresh westerly breeze roughens the sea into deepest azure, and keeps a continual murmur of plashing waves at the foot of the cliffs, few pieces of English coast scenery offer more attractions than this. From the verge of the short green sward of the down, the chalk plunges in a sheer precipice of dazzling whiteness, that contrasts well with the mingled blue and emerald-green of the sea below. Projecting massive buttresses, that catch the full blaze of sunlight, throw into delicate violet shadow the recesses and alcoves into which the face of chalk has been worn. On the great ocean highway in front, vessels of every size and rig sail past on their outward or homeward voyage. Though our perch above the precipice is solitary, we yet feel within sight and touch of the living world. Across the bay we mark the smoke of distant villages and towns, and the fields and woodlands that separate the scattered hamlets. Just below, at the northern foot of the ridge, sheltered and concealed among its woods, lies that home so dear to lovers of English literature, where—

"Groves of pine on either hand,
To break the blast of winter, stand,
And further on, the hoary channel
Tumbles a breaker on chalk and sand."

Nor are memorials of the past wanting to throw over the scene the priceless charm of old memory and tradition. The down is roughened here and there with "the grassy barrows of the happier dead." The steeples and towers of the country churches dotted over the landscape, mark still, as they have done for centuries, the heart of each parish and its quiet graveyard. It is a typically English scene, full of that hallowed, historic interest, and of that subdued, unobtrusive beauty, where the lineaments of nature are everywhere more or less concealed by the labors of man, which constitute so chief a source of pleasure in the landscapes of England.

Here, surely, our literary censor may claim that no room can be found for the foot of science. What can we pretend to add to the charm of such scenery; or what can we do, if we touch it at all, but lessen that charm? Again, I accept the challenge, though with perhaps somewhat more diffidence; not that I think the contribution from science is here less available or less appropriate, but because I so fully share in the feeling that a scene, in itself and to the ordinary eye so full of everything that can give pleasure, needs no addition from any source.

Let me suppose that we are placed upon the extreme western verge of the down, with the Needles in front of us. The chalk that forms these white faces of rock is shown by science to be made up entirely of the mouldered remains of creatures that gathered on the sea-bottom, ages before the species of animals living at the present day came into existence. Sponges, crinoids, corals, shells, fishes, reptiles, mingled their remains with those of the minuter forms of life that accumulated on the floor of that ancient ocean. And now, hardened into stone, the ooze of that sea-bed has been upraised into land. The "long backs of the bushless downs," which for many successive centuries have remained as we see them, were originally parts of the sea-bed, and are entirely built up of the vestiges of dead organisms.

But this is not all. Look at one of those noble faces of rock which shoot up from the restless breakers, and take note of the parallel lines of dark flints which,

as if traced with a pencil, sweep in such graceful curves from base to crest of the cliffs. Alike on buttress and recess, from headland to headland, no matter how irregularly the chalk has been sculptured, these parallel lines may be followed. A feature so conspicuous in the architecture of the precipices could not escape the attention of the most casual visitor, but he only vaguely marvels at it, until geology tells him that these dark lines mark successive floors of that ancient sea—floors that gathered one over another, as generation after generation of marine creatures left their crumbling remains upon the bottom. But now they are bent up and placed on end, like books on the shelves of a library. And thus we learn that not only has this ancient sea-bed been turned into dry land, but its layers of hardened ooze have been tilted up vertically, and that it is the worn ends of these upturned layers which form the long ridges of the downs.

But science further makes known to us that beyond the clifly margin on which we stand, there once stretched an ampler land that has long disappeared. Far over the English Channel the chalk downs once extended with their undulating summits, their smooth grassy slopes, their deep cooms and quiet bournes. That vanished land ran southward, until it ended off in a range of white precipices. The rain that fell on its surface gathered into a river that flowed northward through Freshwater Gap into the Solent. Strange to tell, perched on the top of the present cliffs, to the east of Freshwater, lie fragments of the bed of that ancient stream, consisting of gravel and silt which, as the cliffs are undermined by the waves, tumble to the beach and mingle with the gravel of to-day. In these ancient deposits are found teeth of the long-extinct mammoths which browsed the herbage on slopes that rose southward, where for many a long age the Atlantic has rolled its restless tides and breakers.

Musing on these records of a dim forgotten past, we once more turn to the last spurs of chalk and the isolated Needles. There, with eye quickened to recognize what science has to reveal, we trace on every feature of the rocky foreground, inscribed in characters that cannot be mistaken, the story of that process of destruction which has reduced the Isle of Wight

to its present diminished proportions. The rains, frosts, and tempests splinter the chalk above and the waves gnaw it away below. Year by year fresh slices are cut off and strewn in fragments over the sea-floor by the unwearying surge. The Needles, once part of the down, are perceptibly less than they were a generation ago. The opposite white cliffs and downs of Dorset were at one time continuous with those of the Isle of Wight. They, too, by their shattered precipices, tunnelled caverns, and isolated stacks of rock, tell the same tale of disintegration. And, thus, impressive though the scenery was before, it now acquires a new interest and significance, when every cliff and pinnacle becomes eloquent to us of a past so strange, so remote, and yet so closely linked with our own day by a chain of slow and unbroken causation.

And now, as a last illustration, let me conduct the reader in imagination to the far northwest of Scotland and place him on the craggy slopes above the upper end of Loch Maree as the sun, after a day of autumnal storm, is descending toward the distant Hebrides in a glory of crimson, green, and gold. Hardly anywhere within the compass of our islands can a landscape be beheld so varied in form and color, so abounding in all that is noblest and fairest in our mountain scenery. To the right rises the huge mass of Slíoch, catching on his terraced shoulders the full glow of sunset, and wreathing his summit with folds of delicate rose-colored cloud. To the left, above the purple shadows that are now gathering round their base, tower the white crags and crests of Ben Eay, rising clear and sharp against the western sky. Down the centre, between these two giant buttresses, lies Loch Maree—the noblest sheet of water in the Scottish Highlands—now ablaze with the light of the sinking sun. Headland behind headland, and islet after islet rise as bars of deep violet out of that sea of gold. Yonder a group of pines, relics of the old Caledonian forest, stand boldly above the rocky knolls. Around us the naked rock undulates in endless bosses, dotted with boulders or half-buried in the deep heather that flames out with yet richer crimson in the ruddy light filling all the valley. Overhead, the banded cliffs of Craig Roy, draped with waterfalls and wet with the rains of the earlier part of the day, glow

in the varying tints of sunset. We hear the scream of the eagles that still nest in these inaccessible crags; the hoarse outcry of the heron comes up from the lake; the whirr of the blackcock re-echoes down the hill-side. It might seem as if we were here out of sight and hearing of man, save that now and then the low of cattle, driven home to their stalls, falls faintly on the ear from the distant hamlet, which is fading into the gathering twilight of the glen.

At such a time and in such a scene the past speaks vividly to us, if there be human associations of a bygone time linked with the place. Here, in this remote Highland valley, we are led backward in imagination through generations of strife and rapine, clan warfare and private revenge, bravery and treachery, superstition and ignorance, far away to that early time when, in the seventh century, Maelrubha, the red priest from Ireland, preached to the savage Picts, and first brought this region within the ken of civilized men. More than twelve hundred years have since passed away, but the memory of that early missionary still lives here among the solitudes which he chose as the scene of his labors. The lake yet bears his name, and his favorite island of retirement, embowered in holly, mountain ash, and honeysuckle, contains his holy well, which, even to this day, is visited for the cure of diseases, while offerings are there made to the saint.

It is just this little touch of "the still, sad music of humanity" which is needed to crown the interest and dignity of our Highland landscape. "What more, then, can we need or desire?" our literary critic may once more demand; "you may go on to elaborate the details of the scene, for every part of the picture abounds in the most exquisite detail, beyond the power of pen or almost of pencil adequately to portray. But what can science do here, except to mar what already is perfect, or to confuse by contributing what is entirely irrelevant?"

Again I feel the force of the objection, and all the more because to combat it as I should wish to do, would involve me in geological details which would here be wholly out of place. Let me say, briefly and decidedly, that after many years of experience in every variety of landscape in this country, I know nowhere a scene

which has its true inner meaning as a source of impressiveness more strikingly revealed, or which has its ordinary interest more vividly intensified by the light which geological history throws upon it.

The most cursory traveller, even as he drives rapidly along this valley, can hardly fail to observe that three distinct rocks enter into the composition of the landscape, each differing from the others in form, color, and relative position, and each contributing its own characteristic features to the scenery. First of all a series of curiously hummocky eminences of dark gray rock mounts from the edge of the lake up the sides of Slioch, forming a kind of rude and rugged platform on which that mountain stands. Next comes a pile of brownish-red sandstone, which in parallel and almost horizontal bars, like so many courses of cyclopean masonry, forms the upper and main mass of the height. And lastly, there is the bedded white rock which, hanging upon the flanks of the red sandstone, towers in the cliffs of Craig Roy on the one side of the valley and builds up almost the whole of Ben Eay on the other side. The differences and contrasts between these three kinds of material are so marked, and have obviously played so essential a part in producing the special peculiarities of the rocky landscape, that even our literary censor himself could hardly, in spite of himself, fail to note them and might venture to ask a question about them.

To answer his question as it might best be answered would be most briefly and vividly done by a true poet. I can only pretend to present the mere facts, but even such a presentation in the driest and baldest way cannot conceal their inherent marvellous interest.

Those gray bosses of rock that rise out of Loch Maree and form the base and outworks of Slioch are portions of the very oldest known land-surface of Europe, as incalculably more ancient than the rest of the Highlands, as the Highlands in turn are more ancient than the Alps or the Apennines. Their heights and hollows existed before the red sandstones were laid down. To this day, you can walk along the shore-line of the vanished lake or sea in which these sandstones accumulated, and can mark how hill after hill, and valley after valley, sank under its waters, and were buried beneath its quietly

gathering sand and shingle. That primeval land surface, slowly settling down, came at last to lie under several thousand feet of such sediment. Long subsequently, after the sand, hardened into sandstone and the gravel, consolidated into conglomerate, had been partially raised out of water, came the time when the white rock of Ben Eay and Craig Roy gathered as fine white sand on the sea-bottom. Some beds of this compacted sand are filled with millions of the burrows of sea-worms that lived in it, and higher up come bands of limestone crowded here and there with trilobites, shells, corals, sponges and other organisms belonging to an age anterior to that of even the very oldest fossiliferous rocks of most of the rest of Britain. These sheets of marine sediment point to a period when there were no hills in northwest Scotland, for the primeval heights still lay deeply buried, and a shoreless sea spread far and wide over the region.

At length after a vast interval of time came an epoch of gigantic terrestrial disturbance, when northwestern Europe, from the North Cape to the south of Ireland, was convulsed; when the solid crust of the earth was folded, crumpled, and fractured, until its shattered rocks, crushed and kneaded together, acquired the crystalline characters which they now display. In the course of these tremendous displacements (to which there is no parallel in the later geological history of this country) huge slices of the earth's crust, many hundreds of feet thick and many miles long, were wrenched asunder and pushed bodily westward, sometimes for a distance of ten miles. By this means portions of the oldest rocks of the region were torn off and planted on the top of the youngest. The whole country thus broken up underwent many subsequent mutations and was finally left to be gradually worn down by the various agents that have carved the surface of the land into its present shape.

Our three groups of rock, so distinctly marked out in the landscape, thus record three successive and early chapters in the long history by which the topography of the Scottish Highlands has been brought into its existing form. Knowing what is their story, we find that every crag and scar acquires a new meaning and interest. Past and present are once more brought

into such close and vivid union that while we gaze at the landscape as it stands now, its features seem to melt away into visions of what it has once been. We can in imagination clothe it with its ancient pine-forests through which the early Celtic colonists hunted the urus, the wild boar, the wolf, the brown bear, and the reindeer. We can fill up the valley with the stately glacier which once stretched along its hollow and went out to sea. We can dimly conceive the passage of the long ages of persistent decay by which mountain and glen, corrie and cliff were carved into the forms which now so delight our eye.

In a memorable and often-quoted passage, Johnson wrote, "To abstract the mind from all local emotion would be impossible, if it were endeavored, and would be foolish if it were possible. Whatever withdraws us from the power of our senses, whatever makes the past, the distant, or the future predominate over the present, advances us in the dignity of thinking beings."* If this be a just judgment, surely we may further maintain that whatever heightens our interest in the landscapes around us, whatever quickens the imagination by presenting new views of what has long been familiar, whatever deepens our reverence by teaching us to recognize the proofs of that long orderly progress through which the land has been fashioned for our use, not only raises us in the dignity of thinking beings but stimulates the emotional side of our nature and furnishes abundant material for the exercise of the literary and artistic faculties. Science even in her noblest inspirations, is never poetry, but she offers thoughts of man and Nature which the poet, in the alembic of his genius, may transmute into purest poetic gold.

But we have lingered by the side of this northern lake, with its noble curtain of mountains, and the sun meanwhile has sunk in a glory of flame beneath the faint outline of the Hebrides; the last flush of crimson has faded from the sky and the twilight is deepening into night adown the valley. In leaving the scene, if I have succeeded in showing how we have it in our own power to quicken the influence of scenery on the imagination, we may I trust take with us the full conviction that

* *Tour in the Hebrides*, p. 346.

there is no landscape so fair which may not be endued with fresh interest if the light of scientific discovery be allowed to fall upon it. Bearing this light with us in our wanderings, whether at home or

abroad, we are gifted, as it were, with an added sense and an increased power of gathering some of the purest enjoyment which the face of Nature can yield.—*Fortnightly Review.*

THE PEDIGREE OF THE MUSIC-HALL.

BY ELIZABETH ROBINS PENNELL.

OF late the degeneracy of the English Drama has been a good deal talked about in papers and reviews. It has been made the text for miles of "copy," both clever and dull. Some ascribe the evil to the pernicious influence of Ibsenism; others, to the iniquity of the actor-manager: all agree there is reason to lament.

But if the Drama be "in the doldrums," on the other hand the Variety Entertainment has triumphed. Theatres may close their doors in despair, but music-halls multiply and pay bigger dividends as their numbers increase. Rumor may whisper low of the bankrupt hopes and finances of the once prosperous actor, but personal paragraphs proclaim aloud the princely income of the newest *artiste*. And the minor poet with a mission preaches Beauty in the Ballet and Salvation in the Skirt Dance; and the Lion Comique, interviewed, declares the Millennium come, now that even aristocratic ladies crowd to hear him, or exhibit him, in their homes, as the latest rival to the notorious painter or the literary swell—nor does ever song of his bring a blush to noble cheek; and youthful royalty sits entranced through an Aquarium programme; and he who does not know what a music-hall is like is scorned as a "jolly old juggins," with the Dook of Mr. Anstey's "Little Crossing-Sweeper." For if legitimate Drama be dead in England, the reign of *Tit Bits* has been inaugurated on the stage as in literature, and, at last, the theatrical ideals of the great English public have been adequately realized.

Before the first Miracle Play had been invented, the people of England had clamored for the variety entertainment, and been given it. There was not a castle throughout the land that had not its own special London Pavilion or Alhambra in miniature. The two main characteristics of the modern hall are variety in the pro-

gramme and freedom for the audience. In the castle-hall, at evening, when "the tuns of mead were broached and the horns filled and borne round by young maidens, and men ate and drank and were merry," then the minstrels came and sang their ballads, acrobats tumbled and wrestled, dancers twirled and pironetted, jugglers threw balls and swallowed swords, trained beasts were put through their paces. Then, as now, the audience were free to go and come; likely enough, free to keep on their hats or helmets, if they chose; to join in the chorus, to throw things at the performer who failed to please. But it is the very essence of our modern music-hall that it shall not bore; to avoid monotony—the unpardonable sin—the system of "turns," each short, and one following the other without delay, has been devised. Now, already in feudal days, the idea of "turns" had been developed: the minstrel gave place to the acrobat, the acrobat to the dancer, the dancer to the clever dog. But where the modern *artiste* jumps into his brougham, and rolls over asphalt or wood, from the Paragon to the Pavilion, from the Met. to the Middlesex, the old favorite tramped it over execrable roads, from Surrey hills to Lincoln fens, from Norfolk broads to Lancashire lakes. The former calculates to a minute the time of his arrival; the latter risked being days, and weeks, and months late. In bad seasons the comic singer may have sung from Lady Day to Michaelmas, the juggler thrown his balls from Michaelmas to Lady Day again. An effort was made to mend matters. Acrobats and minstrels travelled together, an innovation which M. Jusserand thinks the beginning of the end of minstrelsy, but which was really the beginning of the triumph of the variety entertainment.

There was then no paternal County Council; but there was a Church. The

faithful loved songs and tales and spectacles : why, asked the priest, why should not Christ and saints and angels make a sacred pageant, why not recite stories of Holy Writ, sing hymns for ballads? Why not elevate the masses by exchanging the frivolity of

“Maie games and maskes with mirth and minstrelsie,

Pageants and school-feastes, beares and puppet plaies,”

for the solemnity of the Mysteries? But he had not reckoned with the full force of the people's love for the old amusement; he had not gauged the depth to which it had sunk its roots into the national life. No sooner had he offered his substitute than he was compelled to compromise. If he would retain his audience in gloomy church or gloomier graveyard, he, too, had to cater for them with varieties. When his stage version of Cain's crime and punishment palled upon the playgoers, he summoned the minstrel to relieve its tediousness, even as Marie Lloyd might be invited to sing her “O Mr. Porter” between the acts of “The Master Builder.” When the tyranny of Herod got upon the people's nerves, in came a boy with a bladder to buffet him, as Mr. Irving's “King Lear” might be spurred into intelligibility by the antics of the Two Macs. If the virtues of Queen Hester grew intolerable, Hardy-Dardy stepped in to “stoppe the gappe,” a suggestion that might prove useful to Mr. Beerbohm Tree. And, at all times, and in all places, there was Satan, the fool, to do an “extra turn.” The miracle play was transformed into the variety show against which its existence, at first, had been a protest.

The Mysteries went out of fashion, and the Moralities became the thing. Angels and saints gave way to Virtues and Vices. But the element of variety survived unchanged. Reason and Innocence might be as prosy as Christ and the Virgin, but the Devil, at the head of his seven deadly sins, or Vice,

“In his long coat, shaking his wooden dagger,”

could convulse the audience with jests as rare as those of the “very peculiar American comedian,” with buffoonery as wild as the pranks of the Blondin donkey, or, when the Devil carried Vice over his shoulders to Hell, with gymnastics as

startling as the acrobatic death of Paul Martinetti. Mind and Will, Knowledge and Science, might grow dull beyond endurance, but the Fool was at hand, with his “bunch of ballets and songs all ancient.” And when Circumspection could not restrain Perseverance on the road to boredom, Fancy and Folly could crack their joke about a flea with as pretty a wit as any White-eyed Kaffir. The moral play might have been omitted, and a presentable music-hall programme would have still remained.

The wheel of fashion, or culture, or civilization, turned again, and the Moralities went the way of the Mysteries. At last it dawned upon the dramatist that it was not the only object of a play to instruct or edify, and the artist succeeded the priest and the moralist. It was now not so simple a matter to compromise. Art is a more inexorable mistress than religion or ethics. At first there were concessions; the Devil and Vice disappeared, but the Fool survived to jest and tumble and sing. The interlude, the jig at the end of the piece, forerunners of the triple bill, were additional allowances made to meet the public taste. The genius of Elizabethan dramatists might not soar to Jonesian heights, where “art-pleasure” and “amusement-pleasure” become irreconcilable. But they were artists, to whom the medley of Mysteries and Moralities was impossible. The earlier buffoonery of the Fool developed into the comedy of Dogberry and Verges, of Touchstone and of Puck; the inconsequent interlude grew into the play within the play, as in “A Midsummer Night's Dream” and “Hamlet.”

The drama freed itself of the old elements of variety, but, at the same time, the variety show was emancipated from its dramatic fetters. Heretofore the people had been compelled to enjoy drama and varieties together; now they revelled in each separately. One night they wept over “King Lear” or “Othello” at the Globe, the next they chuckled over bear-baiting, fencing-matches, puppet plays, and interludes at Paris Garden; much as Londoners now divide their emotions between the Lyceum and the Pavilion. And the music-hall programme, to-day the monopoly of the multitude, was then the relaxation of royalty. Leicester, welcoming Elizabeth to Kenilworth, was but the

Sir Augustus Harris of his generation. And, as now 'Arry in the pit, Tommy Atkins in the gallery, and gilded Johnny in the stalls, join in popular chorus, so, at the old court pageants or varieties, kings and princes, nights and ladies, when the dancing "turn" began, performed their own *pas de quatre*.

During the Commonwealth, the legitimate stage succumbed before the Puritan, but the variety entertainment, with the "turns" long since out of date, and with that scattering of its component parts which would be intolerable to the modern man, defied the preacher, as it had already challenged the artist, to do his worst. Why, asked the actors, in the famous "Remonstrance," why are we beggared and dishonored when "other recreations of farre more harmfull consequences are permitted still to stand, viz., that nurse of barbarism and beastliness"—the variety show then in vogue? All else might perish, but not the music-hall of the day.

After the Restoration, the people flocked back to the theatre with appetite sharpened by long unwilling abstinence. But the fury of the reaction could not sweep away the drama's more vigorous rival. The gayest comedy had to vie with puppets and acrobats; from the King's Servants, and the Duke's Company in Drury Lane and Dorset Gardens, the crowds hurried to the dancers and mountebanks in Lincoln's Inn Fields.

The Restoration comedy began to languish; the variety entertainment was as fresh as if born but yesterday. It was again everywhere, as in Elizabethan days. Now it made its headquarters at Sadler's Wells, where the tumbling and dancing on wires sent many a Winifred Jenkins into fits; now it was so scattered that Spectator's friend proposed one great whole which would embrace "all the remarkable shows about town." Even the legitimate drama, though housed at Drury Lane and Covent Garden, was not secure against encroachments. There were tight-rope dancers at the one and trick elephants at the other, and a hundred compromises besides. Indeed, Mr. John Hollingshead was not far wrong when he assured the Commission that our variety entertainment originated in the patent theatres.

Within the last hundred years, the progress of the variety entertainment is

difficult to follow. It was in the latest stages of its development, before its final triumph, that it found the greatest number of asylums. It took refuge not only in the royal playhouses, but in the caves of harmony of Colonel Newcome's day, the coal-holes of Mr. Fardell's tender memories, the stage of the *Poses Plastiques*, where the Empire now stands, the circus ring from which it has not yet been banished, the public-house saloon which, already in George II.'s time, had taken out its license for the purpose. It is small wonder that Mr. Hollingshead had no sooner informed the Commission that the variety entertainment came from the patent theatres than he explained that from taverns sprang the music-hall. The truth is, such close competition had arisen among providers of public amusement that all, saloon-keepers and theatre-managers alike, sought to draw the public by adding varieties to their entertainment. The immediate consequence was the destructive division of variety talent. But the evil righted itself. Forces were gradually concentrated and programmes lengthened. Where there was greatest variety the largest audience assembled, until the music-hall was evolved. It sprang neither from patent theatre nor tavern, from coal-hole nor cave of harmony; it was simply the supreme development, on a stage of its own, of that ever popular form of entertainment which for a while had made its home in each.

This was some twenty or thirty years ago. But even to-day there is doubt as to what really constitutes a music-hall. If the Pavilion, the Gaiety Restaurant, Willis's Rooms flourish under the same license, confusion is inevitable. For all practical purposes, however, the music-hall means the headquarters of the variety entertainment—only that, and nothing more. The fact that smoking is allowed in the music-hall, while pipe or cigarette must not be lit in the auditorium of the theatre, is suggested as its special distinction. But the Varieties at Hoxton, with its two performances every evening, the Gaiety, with its songs and dances, are the most popular variety entertainments in the East and West of London, and yet both have but the theatre license, which prohibits smoking. This whole smoke and drink question is strangely subtle. There are plays, like "The Bells," that call for endless

supplies of brandy-and-water—have we not Mr. Irving's word for it?—and the brandy can be drunk, and the cigarettes smoked inside the theatre, within a step of the auditorium; yet actors agree that, once permit pipes and grog within the sacred precincts, and dramatic art will perish, and every theatre degenerate into a music-hall.

Again, a line is drawn between music-hall and theatre by the purist, who defines the latter as the temple of Art, with a big *A*, the former as the saloon of art, with a little *a*. It is an ingenious argument, but one based on fancy rather than fact. Compare an Alhambra ballet to a Henry Arthur Jones' "art-pleasure" play, Mr. Paul Martinetti to Mr. Irving, Mr. Chevalier—before he took to sentiment—to Mr. Tree, and what then? The art, with big or little *a*, as you please, belongs to the music-hall.

But one definition is possible. The music-hall offers variety—it matters not whether it be good or bad—the theatre, monotony; variety the people prefer, and always have preferred. No other reason is needed to account for the permanent success of London's one hundred and eighty-nine halls, the varying fortunes of its forty-three theatres.

If the music-hall be a modern institution, the entertainment it provides is the heirloom of centuries. There is not a "turn" which is new; the one novelty is their arrangement on the same programme, the consecration to them of a special stage. What is the "Sketch," but the Morality revived? It is much shorter, to be sure, but had there been kind authorities to limit the moral play to forty, or better still to twenty minutes, its days had been longer in the land. Not its matter, but its tediousness killed it. The genuine Englishman loves a good, honest moral, especially if it be as easy to read as a sky sign, as seasoned with sentiment as his daily paper. He objects to the "fine shades"; were anything left to his imagination, he would be forced to that mental effort which it is the duty of the music-hall to prevent. The Morality has improved in the shortening, it is the better for dropping allegory: the moral has become more obvious. In the old form, there was much beating about the bush; in the new, thanks to the exigencies of the music-hall license, there can be no

shilly-shallying. Skelton, to prove the vanity of riches, introduced into his "Magnificence," twenty characters, endless soliloquies, and constant by play. In the last "Sketch" it was my privilege to see in the Canterbury over the water, the *dramatis personæ* were but six: the blunt, faithful 'orny 'auded working man in flannel shirt; the gentlemanly villain in linen (according to music-hall conventions, a starched collar symbolizes villainy); the modest village maiden; the stage capitalist, irascible but benevolent (his overcoat, worn in midsummer, denoting wealth); an angel child, of course a girl in boy's clothes; and a policeman. Where the gain had they been labelled Honesty, Vice, Modesty, Benevolence, Innocence, and Retribution? No one could mistake their functions; the situations and final triumph of Innocence and Honesty were as inevitable as the catastrophe of Greek tragedy. When Scene 1 disclosed a glade in a wood, and the working-man with a shriek of "Un'and 'er villain!" rescued the maiden the sequel was a foregone conclusion. Of course, the capitalist had been robbed, and now strolled into the wood to explain to the villain his plot to catch the thief. Of course, the villain was the thief, and at once, in his turn, explained to the audience his plot to betray his rival: "Oi'll put the two bob wot's marked in Jack's pawcket! Oi'll win me Beauty yit! Ha! ha!" Of course, the angel child was hiding behind a tree, and once the coast clear, sprang forward to express her joy in an elaborate breakdown that left her breath only to shriek, "There's toime yit Jack to sive!"

The rhymed talk of Magnificence with Fancy and Counterfeit-Countenance and Folly and the rest was feeble in comparison with this simple scene. Nor could the encounter with Adversity and Poverty exceed in force and terseness the second scene in the capitalist's office, with the angel-child pretending to hide under a desk, but really the first object to strike any but a villain's eye. Straight to the point, without long-winded soliloquy, went the villain, slipping the marked money into the pocket of Jack's coat, hung on a convenient peg! And straighter still went the angel-child, taking it out again, in the midst of a brilliant series of hornpipes, highland flings, and Irish jigs, thus appealing to the predominant nation-

alities of the cosmopolitan metropolis. For, short as is the present Morality, it too must have its interlude of dance and song. In Skelton's play, it took Redress, Circumspection, Perseverance, and Magnificence, all talking hard, to read the lesson at the end. At the Canterbury, it was enough to show the villain, his collar unbuttoned, his necktie undone, handcuffed by the policeman on one side of the stage, the maiden in Jack's arms on the other, and the angel-child executing a thrilling *pas seul* in the centre. Had Vice been carried off on the Devil's shoulders in the manner of the early clumsy device, could the moral have been strengthened?

But the old-fashioned "Sketch" I fear is doomed. Music-hall proprietors boast of its refining influence, and are elaborating it into melodrama. Theatre managers dread its interference with their rights, and oppose it with a triple bill. Brand-new halls for the West-end do away with it to make room for one-act plays by literary men. The "Sketch" came from the people and was, at least, racily characteristic of them. The new short drama offers not even art as compensation. And even Kegan and Elvin, the two masters, the two artists, ruined by popularity, are descending to cheap sentiment.

If the "Sketch" be but the revival of the Morality, the ballet is but a new version of the old court pageant. In the Fairfax and Harleian MSS. are descriptions of Disguisers which, put into nineteenth century English, might pass for Silhouette's last notice of the last Alhambra ballet; that is, descriptions of the combination of dance and spectacle, of inconsequent plot and bewildering panorama, of which Leicester square, and not St. James's, is now the holy of holies. It may be questioned whether even the skirt-dance, the serpentine dance, or the electric-dance is strictly modern; or, if it be, to the early Nellies and Letties and Lotties it would seem but a weak substitute for their own weirder dances, when they pirouetted on their hands, balanced themselves on swords, long skirts clinging to their waving legs and winding about their graceful feet, as they can be seen in mediæval illustrations.

It is the critic's joy to extol the past at the expense of the present. "Where," he asks, "where are the minstrels?"—

where the ballads of yester-year?" But the critic does not go to the music-hall. In its songs and singers it is most faithful to tradition. Had statistics been preserved, doubtless it could be demonstrated that the minstrel's "turns" outnumbered those of his brother *artistes* in Middle-Age halls; on the modern variety stage, the proportion is as six to one; greater in the Pavilion, or Tivoli, or Royal, where sketch or ballet is not presented. The people love music—or noise; their vigorous chorus is not to be misunderstood. And the popular songs, that correspond to the ballads of Sir Isumbras or Sir Egla-mour, are produced first on the variety bill. Language may alter with the ages, but human passion is ever the same. In the nineteenth century, as in the thirteenth, men delight in songs of patriotism and of love. Loud and long resound the cheers of music-hall patriots, when the young lady, in red tights and velvet cloak, shouts the glory of "The English Rose"; many a furtive tear drops into a B.-and-S. when Mr. Charles Godfrey, in a white wig, sings the woes of the old soldier, once England's brave defender. To the average man, would the betrayed maiden's

"Waly, waly, love be bonny"

seem more plaintive than Miss Ada Lundberg's lament for her soldier-lover:

"Fur me little Tommy Hatkins was a fly
young man,
And 'e's bin the ruingiation of 'is Mari
Hann!"

Or was Jane Shore more to be pitied by the populace than the slavey deserted by her faithless policeman:

"Come listen to a tale of woe,
Tooraladdy!
'As any one seen my beau?
Tooraladdy! Tooraladdy!
I lent 'im hall me six months' py,
Tooraladdy!
And wen 'e got hit, 'e cut awy!
Tooraladdy! Tooraladdy!"

The shepherd of the ballad was not more steadfast than the coster singing to his 'Arriet, or the laborer to his dear old Dutch; the nutbrown maid not more faithful than Miss Bessie Bellwood to her Aubrey Plantagenet. Some day, music-hall poetry will find its Bishop Percy. There may be fewer ballads of knights, but the knight now is "resting": to be as realistic as the mediæval minstrel when he chanted of Arthur and of Roland, Mr.

Dan Leno sings of shop-walkers and waiters, Mr. Herbert Campbell of navvies, Mr. Walter Munroe of the "Skiters at Olympia," Mr. Coborn of "The Man who broke the Bank at Monte Carlo"—the heroes of our civilization. Even the dodges of the old men are tried anew and for Moros in the Morality, "counterfeiting a vaine gesture and a foolish countenance, singing the foote of many songs as foolles were wont," the modern variety manager gives us the Sisters Govetti with their inimitable "Up to Date," that jumble of music-hall songs which no self-respecting hurdy-gurdy or brass band in London would dare omit from its repertory. In only two respects was the earlier minstrelsy inferior to ours. It had not soared to the pathos of the nigger, the portly gentleman in dress-coat and blackened face who warbles, in a voice filled with tears, of poor Molly who wanted for a shilling to pawn her dear Dolly, and save her starving family. Nor had it risen to the conception of the serio-comic, the young lady in flaxen curls, sun-bonnet and baby's apron, or else in cropped locks, silk hat, coat and trousers, who summons you with a "Hi! hi!" to "clear the wy for the Rowdy-Dowdy Boys!" These are the two supreme touches reserved for modern genius. The artistic quality, or even the average excellence of this bunch of songs, it is true, could not easily be maintained. But who imagines that every old ballad brought out was good? Who knows the number of inanities lost for the few masterpieces saved? Many of the

music-hall productions are rubbish, but not all. Has not Mr. Rudyard Kipling's "Tommy" been sung by Mr. Charles Coborn. Was there not once a rumor that Mr. Arthur Symons was to fly with his Muse from Vigo-street to Leicester-square?

And the other "turns" boast a pedigree as illustrious and as long. Acrobats and jugglers, bears and dogs, by the same feats and the same tricks—you can see them in illuminated MSS. and old woodcuts—held Saxon and Norman spellbound, as they hold the Cockney to-day. Not one number of the programme could be cited which has not its mediæval counterpart. More of the past lives in the music-hall than in any other modern institution. And yet, scholars who hang entranced upon the old woman's faltering tale, who collect odd scraps of the peasant's superstitions, who burrow into graves of ancient Britons, would be insulted were you to propose, seriously and studiously, a visit to the "Troc." or the "Met." For centuries Englishmen have been shaping their variety entertainment into its present form, and now, like a child with the toy it has been crying for, they are doing their best to destroy it. Nowadays, proprietors and managers, working-men patrons and *artistes* protest that the variety show is a great moral force, an educational factor, a safeguard against intemperance. Evidently, its days are numbered. When too late, when it is no longer to be studied at first hand, the scholar will learn its value. —*Contemporary Review.*

VITA NUOVA.

BY WILLIAM WATSON.

LONG hath she slept, forgetful of delight :
At last, at last, the enchanted princess, Earth,
Claimed with a kiss by Spring the adventurer,
In slumber knows the destined lips, and thrilled
Through all the deeps of her unageing heart
With passionate necessity of joy,
Wakens, and yields her loveliness to love.

O ancient streams, O far-descended woods
Full of the fluttering of melodious souls ;
O hills and valleys that adorn yourselves
In solemn jubilation ; winds and clouds,
Ocean and land in stormy nuptials clasped,

And all exuberant creatures that acclaim
 The Earth's divine renewal : lo, I too
 With yours would mingle somewhat of glad song,
 I too have come through wintry terrors,—yea,
 Through tempest and through cataclysm of soul
 Have come, and am delivered. Me the Spring,
 Me also, dimly with new life hath touched,
 And with regenerate hope, the salt of life ;
 And I would dedicate these thankful tears
 To whatsoever Power beneficent,
 Veiled though his countenance, undivulged his thought,
 Hath led me from the haunted darkness forth
 Into the gracious air and vernal morn,
 And suffers me to know my spirit a note
 Of this great chorus, one with bird and stream
 And voiceful mountain,—nay, a string, how jarred
 And all but broken ! of that lyre of life
 Whereon himself, the master harp player,
 Resolving all its mortal dissonance
 To one immortal and most perfect strain,
 Harps without pause, building with song the world.

—*The Spectator.*

EVERY-DAY ATHENS.

BY NEIL WYNN WILLIAMS.

FASTING has been, and is, considered by some people to exercise a certain alterative effect over the juices of the body, whereby the soul becomes freed to a certain extent from the grosser influences of the flesh and more appreciative of the beautiful, no matter what form it assumes.

Supposing this theory to be correct, we were—whether voluntarily or not is beside the question—undoubtedly going to work the right way to become ardent admirers of Athens—of that city where the colors of nature and art vie with each other to produce the finest effect in the picture as a whole.

We had arrived early one morning at the Piræus in an Hellenic steamer from Syra, and feeling that after a very stormy night at sea one would have every right to claim a breakfast rather more substantial than a Greek one—a very small cup of black coffee and a glass of water—which was the only sort of apology for a breakfast to be obtained on board, we had suddenly resolved upon walking to Athens, some five miles distant, and breakfasting there at any English or French restaurant which we might happen to come across ; for at this period our knowledge of Modern Greek of any kind was so literally nil

that to obtain food of any sort it would have been necessary to go through a series of unstudied *tableaux vivants*.

Nor was this plan by any means a bad one, for on a first visit to Athens, by walking or driving from the Piræus instead of taking the quicker *sithirothromos** (railway) you gain more time to absorb and assimilate the beauties of the exquisite panorama which lies unfolded before you, and which, in all seasons—in fair and in foul weather—resembles nothing and no other place but itself. No, *not* even Edinburgh !

It is a walk in which there is but little danger of losing your way ; with the mighty landmarks of the Acropolis and Mount Lycabettus to indicate the whereabouts of both the Ancient and Modern quarters of the town, a map is hardly wanted, and the attention can be directed to the thousand and one objects around one that clamor for a glance.

The road from the Piræus, which, in the height of summer, is almost ankle-deep in white dust, passes on its way to the capital through the Eleusian Groves, where

* The Greek words in this article are for the most part spelled phonetically.

a glimpse is caught of the course of the Ilissus, a narrow stream, generally dry or semi-dry, unless in the rainy season. The traffic along this road is considerable: officers driving out on business to and from the Port in their uniforms, much like those of the French, strings of mules and mule-carts carrying produce from the various markets, and wayfarers in nondescript dresses which it would require a thorough knowledge of the Greek Isles and Provinces for miles round to assign to their proper localities, all come and go deliberately; no signs of the high pressure of modern life hereabouts, unless exception is taken to the presence of the railway near at hand, which makes its way through groves of olives, vineyards, and aloe hedges to the station of Phaleron, the great bathing resort of Athens in the summer time. This absence of *rush* is most strikingly manifest in even the principal streets of Athens: in this respect it resembles a county town; and in much the same way as a wayfarer on entering a county town receives vivid impressions of all sorts of trivialities, so would he, arriving by the Piræus Road, find himself engaged in some absurd little speculation of which he is ashamed when he realizes where he is, and what castle in the air it is that is so intensely outlined against the sky. On entering a London suburb, the spirit of London meets you, takes possession of you, and hurries you on in thought to meet the millions in its bosom; on entering the outskirts of *Athens*, it is the Spirit of the Past which you encounter, and which carries you back so far that the wearied mind turns and reposes in the present, in keeping with the things animate and inanimate in its vicinity.

However, it must not be deduced from this externally placid aspect of the city that its inhabitants develop the same characteristic, beyond the fact of their moderate capabilities for work, for probably to no other nation in Europe would they yield the precedence in their extraordinary fire of speech and vigorously dramatic gestures—their language and their temperament lend themselves to the display of an unstudied oratory, which, from the very fact of its being natural and unacquired, has all the greater potency.

Pity it is that such a gift should not be more fully used for the advancement of the nation and the diffusion of knowledge,

instead of being, as in most instances, expended in discussing questions of paltry party politics, in which names and intrigues hold a higher place than principle.

Politics are the passion of all classes in Athens, and indeed throughout Greece generally; they form an inexhaustible topic of conversation among this democratic people, of which they never weary, but which is so confined and restricted to local names and ambitions that it requires a long residence among them to be able to comprehend the drift of their discussions as to the qualifications or disqualifications of *Kirios* (Mr.) — to receive their votes, or as to the merits or demerits of a *Delyannis* or a *Tricoupia*.

To further fully comprehend this excessive appetite for all that bears directly or indirectly upon the *eklogai*, or elections, it must be remembered that Athens is the forcing-house of numerous papers, the greater portion of the subject-matter in which is directed to political matters; also, that there are very few Greeks who have not a *personal* interest, if not for themselves, yet for a connection, in which party shall secure office.

This phase of the Athenian, as well as national, life is brought strongly to notice at any of the numerous *kapheneia*, or coffee-houses, that are entered. These places of refreshment, which are enormously patronized by the Greeks, are almost exclusively reserved for the consumption of the tiny cups of black coffee, either very sweet, sweet, or unsweetened, which are served to the customer with a glass of cold water, from which he takes a sip to cleanse the palate, preparatory to disposing of the little cupful and a cigarette. The Athenian, generally speaking, is strongly addicted to cigarette smoking, and with the aid of tobacco in this form, and coffee or mastic or raki, is always ready for his politics or a quiet game of dominoes. At certain hours of the day, these *cafés* are crowded to repletion, and present a picture of quiet enjoyment, comfort, and cleanliness that the oleograph portraits of the Royal Family of the Hellenes, always present in *cafés* and restaurants in this part of the world, survey from their position "on the line" of the surrounding walls; other works of art and *fancy*, usually visible in these resorts, are wondrous creations, which apparently represent the latest efforts to attain the ideal, in the form of presentments

of Turkish *houris*, whose plump, well-fed bodies are almost caricatures to a Western eye, so obtrusively obese are they.

The Athenians, it must be admitted, have every right to be proud of their *xenothoeia*, both on the score of comfort and of reasonable charges, for even the most rigid student in the science of economy could hardly find fault with a tariff which, to begin at the respectable but not aristocratic class of restaurant, would provide him with a plain dinner of soup, fish, roast, salad, a bottle of wine, and table accessories, for a sum rather below than over a shilling of our English money. Nor would this low charge necessitate his entering any place where unclean linen or objectionable society might make themselves unpleasantly apparent; on the contrary, he would find table-cloths of an immaculate whiteness, and nothing more offensive in the shape of fellow-diners than perhaps an aristocratic-looking peasant in his handsome national costume of the *foustanella*, and the deportment and equanimity of whom would be by no means affected by the—to him—unaccustomed splendors of pier glasses, knives and forks. Not that it is suggested that he, as well as other diners in such resorts, may not indulge in certain eccentricities at the table, but that such deviations from our usual gastronomic routine would not jar on the average Englishman's susceptibilities any more than conduct to be witnessed at higher-class establishments.

A most striking feature in these restaurants, and indeed in all other business resorts, no matter what trade they may carry on, is the complete effacement of women—they are literally not to be seen, and but rarely in the streets, except at certain hours, or when unavoidably forced out by the exigencies of work. To see the fair Athenians, it is necessary to look above the shops, where they may be perceived sitting at their windows, working or gazing at the passers-by below, who pursue their ordinary avocations with apparently no desire or even thought of the loss of beauty their otherwise richly adorned capital can proudly claim.

So much indoor life and want of exercise is probably responsible for the prevalence of a sometimes far from graceful *embonpoint* among the Maids of Athens, but even this is not a fault in the eyes of their kindred of the sterner sex—a fault!

may, a beauty, from a Greek point of view.

The street life and scenery of Athens may be broadly divided into two zones: the more ancient quarter lying round and about the hill of the Parthenon; and the modern, with its broad streets, Parisian-like in aspect and design, nestling at the base of Lycabettus, crowned by its white chapel of St. George.

The absence of bustle noticeable in the streets of Athens, and due in part, as mentioned above, to the temperament of its occupants and other causes, is fully made amends for to the artistic eye by the variety, and one is tempted to say splendor, of the dresses and bearing of the pedestrians. Color, design, form, all lend themselves in a willing co-operation to adorning and embellishing the life that stirs and has its being beneath a sky whose unclouded brilliancy would at times seem to be carved out of the blue splendor of the gold-streaked labrador stone. The one color that is rarely to be met with in this sun-bathed spot is the fresh, moist green of the northern climates—the tint that refreshes and rests the eye, fatigued by a too-constant stream of the vitalizing sunlight.

Amid the wealth of costumes, both of Greek and other nationalities, pre-eminent by its grace and snowy whiteness is the *foustanella*, a skirt which, adapting itself to every movement of its wearers, sets off their fine forms to the greatest possible advantage, and makes the traveller regret that such a splendid garb should be doomed to a slow extinction by the artistically more vulgar, if more convenient, trousers. In some of these billowy skirts, as much as five-and-twenty yards of linen are used to produce the requisite effect under the gay-colored coats, embroidered and embellished in some cases with gold lace, and further decorated and completed by the other accessories of the costume, including arms of various periods, for flintlocks are not yet extinct *eis tin Ellatha* (in Greece).

With the exception of an occasional fight or a bad drain, there is not much to offend the senses in these every-day scenes: one comes across but few in proportion to the population who cannot say *aklathi*, for the Greeks have it as a saying that a man who can say "pear" in his native language is *not* intoxicated: a test well

worthy of a trial by any individual who feels that he has supped "not wisely, but too well."

But stay; there is a reverse to every picture, even to such gay scenes as these, and here it is grim, solemn, self-evident Death—Death, the relentless pursuer of all living beings, who now and again passes sullenly through these pleasure-loving Greeks, who make way for his poor, rigid-faced victim to once more and for the last time visit his accustomed haunts.

The corpses, according to custom, are carried, feet foremost, on a low hand-bier, through the streets to the cemetery, with the faces uncovered, and preceded by the priests of the Greek Church, who chant in a monotone certain prayers used on such occasions; the relatives who follow are sometimes on foot, sometimes in carriages, according to the rank of the deceased. Such a procession comes upon one in the nature of a shock, till custom reconciles one to it, and to the helpless motion of the poor feet that seem to jolt up and down under the influence of the swift progression of the bearers, who are relieved at intervals on their way to the cemetery.

The cemetery in this city—the approach to which is through a long avenue of cypress trees, which, with their trunks bared of branches for some feet above the ground, and their slightly artificial appearance, recall strongly to mind the miniature trees enclosed in children's boxes of Swiss toys—is interesting not only on account of its resemblance to *Père la Chaise* in its general plan and design, but also for its specimens of modern sculpture. It has been a languidly contested question whether it is permissible for the sculptor, in executing a work from the life, to clothe his creation in the garments in vogue at the date of such a production, or whether he should adopt the more classical and conventional type of robe used for all figures, of no matter what period. Most visitors to this cemetery will probably, from the ocular demonstration afforded here by various figures in white marble, be tempted to agree with the numerically larger school who hold the latter of these opinions, and will be even disagreeably impressed by the *vulgarity* that such an adherence to an ever-changing fashion produces, when faithfully delineated in all the purity of white marble.

NEW SERIES.—VOL. LVII., No. 6.

But to leave a slightly abstruse subject, let us, as a preliminary to glancing at some of the principal streets of Athens, imagine ourselves at the terminus of the Piræus railway, which, oddly enough, is not so out of place from an artistic point of view in its proximity to the Parthenon and numerous other towering monuments that signalize in lofty dumb show the march of time. So engrained are these monuments in the life of Athens—so much are they a portion of the still life of the place—that when modern progress and its achievements dashes with its ever-heightening waves against their broad bases, they do but throw the surges back with an accompanying spray of contrast that only serves to mark the extent of the powers of the Past and the Present that here confront one another in mutual harmlessness.

Past the station runs one of the main streets of Athens, "i othos Ermou," which is prolonged to the Place de la Constitution, meeting at right angles in its course "i othos Aiolou"; this latter, proceeding in a more or less direct line from the Tower of the Winds to the πλατεία τῆς Ὁμονοίας (Place de la Concorde), is one of the main arteries of Athens, and carries its blue blood to the village of Cephissia, embowered amid its olive trees. *Hermes Street* contains the church of the *Agia Triada*, outside which on various festal and other occasions, groups of small boys may be seen, busily tugging at the rope that rouses the bell ensconced in its diminutive belfry above. We presume that during the recent elections they were conspicuous for a short period by their absence; for on occasions when the elections are to the fore, the churches become transformed into polling booths, and the usually presiding priests become part of an excited audience not gathered together for religious purposes. This channel of communication, like most of the others in this older portion of Athens, possesses but an apology for a broad, well-laid pavement; indeed, he who walks not warily is liable to be brought to mother earth, not alone by an ill-conditioned footpath, but by the aid, here and there, of a yawning cellar, or sudden step, trying both to the nerves and spinal column.

At the cross roads close to the Bazaar we are in one of the fashionable lounges, where "Young Athens" (and Elderly as well) is in the habit of amusing itself

in the approved style of the Parisian *flâneur*.

On approaching closer and yet closer to the Place de la Constitution, our countrymen and foreigners generally, in the season, become noticeable on their way to and fro from such resorts as the Hôtel d'Angleterre or that of the Grande Bretagne, whose substantial fronts combine to form nearly two sides of this square, and those which face the Palace of the Heir-Apparent, who can with but little difficulty transpose himself to the Royal residence, situated directly in front of the termination of Hermes Street.

The ordinary pedestrian has every opportunity of seeing the Royal Family of Greece, who, secure in the loyalty of their people, may frequently be seen walking about the capital in a homely fashion, which is attractive from its absence of affectation.

There is nothing especially noteworthy about the plain white façade of the Royal Palace; the most gorgeous object generally within its vicinity is one of the Royal servants in knee-breeches, which suggest Pall Mall.

A handsome street is the Rue des Philhellènes, which débouches on to the square hard by the residence of the Heir-Apparent; down its centre runs the railway to Phaleron, and, with a train puffing its heavy length along past the trees which fringe its edges and serve to shade the neighboring handsome dwellings, it has an American aspect, derived from its combined uniformity and utility.

It is pleasant in the cool of the evening to see the orderly crowds promenading, chatting, and scanning one another along this road, whose name recalls the gallant band who bled and fought for Greece—to turn to the Square and see the Athenians pacing backward and forward on a constitutional—if they have ever soared to the idea of such an exercise, which, in this case, would necessitate a turn about every hundred yards or so.

As an instance of the social good-fellowship so characteristic of this people, an incident occurs to my mind which, in its simplicity, is somewhat refreshing, and to which one would imagine the life of a city would be antagonistic. Seated on an open-air bench in one of the great squares, and delivering oneself to the musings prompted by the environment, I was si-

lently presented by a neighboring stranger, with whom I had previously had no conversation, with a roast chestnut and a *half*, both of which had been carefully peeled for my acceptance. Whatever may be the acknowledged character of the Athenians or the Greeks in general, this much, as a traveller and sojourner among them, one may in all truth say, and that is, that in Athens, among the much-abused Athenians, personally we met with no attempt at extortion, or anything but courtesy and kindness and a keen interest in all pertaining to foreigners and their lands beyond the seas; furthermore, a wonderful tact on the part of all classes in helping and concealing any deficiencies in the stranger, arising from want of sufficient knowledge of the language or customs.

Two other handsome streets which issue into this well-known Place de la Constitution, and which, running in parallel lines, are eventually received by the palm-adorned Place de la Concorde, are the well-known Rue du Stade and Boulevard de l'Université, these two again being on a level throughout their course with the Boulevard de l'Académie. All three boulevards are noteworthy from the numerous handsome edifices, both public and private, that adorn their footways. Chief and most important among the former is the House of the Delegates, situated in the Rue du Stade, and the—of course—political battle-ground of the leading Greek statesmen, who fight to the bitter end for their various schemes of Hellenic and Panhellenic policy, or until commanded to "hold" by such a royal mandate as that which lately called upon Kúpiot Delyannis to resign his portfolio. Here, in many a sonorous, far-sounding period, is to be heard the flower of Modern Greek oratory, delivered in the Hellenic language with all the fire of gesture and intonation that belong to the speakers by right of their descent, and which, in scope of vocabulary and harmony, contrasts right royally with the Romaic language, which is more especially the language of the provinces, islands, and more unlettered Greeks.

These latter, peasants as they are by education and mode of life, still, in at least one respect, are men of the world, inasmuch as they take everything as it comes—Athenian wealth, magnificence, luxury, do not betray them into undigni-

fied expressions of surprise, as very often is the way with our country cousins, when they find themselves in London. Doubtless, they are more at home in the older quarter of Athens, in their chosen marketing haunts around the *agora* (market), or at the bazaar; but should they be called to more aristocratic surroundings on business or pleasure, they will suffer no loss of equanimity thereby.

The bazaar alluded to above offers a quaint, thoroughly Greek scene, with its double row of low shops, whose windowless fronts give one glimpses of stores of such varied articles as crimson *zarouchia*, or Greek boots, with other specimens of brightly-colored leather-work, in the shape of water-bottles, *silakai* for carrying arms, etc.; and a thousand and one articles to which it would be difficult to put an English name, much more a Greek one. Then, again, there are the busy tailors, with their stock of *foustanellai*, and gay-colored jackets, who ply their trade amid a din which discloses its origin, on one's way being pursued, by bringing into view manufacturers of cruel-looking knives that seem to want but little encouragement to develop into well-grown swords. In other quarters, a strong, oily, and fish-like odor proceeds from provision merchants, whose tubs of shrivelled black olives, pickled chunks of fish, and strong white cheese, do not at first sight look very appetizing. But "the appetite comes while eating," and no apology is needed for their redolent presence. The same scene of bargaining, of busy humanity, is met with in and around the market, where, in addition to the goods displayed in the bazaar, the fruits of the South lie piled in heaps that relieve the duskiness of the somewhat sombre hall.

Both business and pleasure in Athens are subject to certain limitations imposed by the seasons with rather more rigor than in the cities of the North; thus, in the great heat of the summer, when the thermometer goes up to 100° and more in the shade, and the white dust holds undisputed sway over all, most work that can be performed before 10 or 11 o'clock in the morning, or any time after 3 in the afternoon, is executed within these limits, and the throng bent on pleasure-taking appear more especially to patronize the favorite *cafés* in the cool of the evening.

In spite of the power exerted by the

clerk of the weather, the discussion of climatic probabilities is not entered upon as a matter of daily conversation, so that when an *Anglos*, bent on politely opening or continuing a dialogue, remarks, "What lovely weather it is!" or, "Do you think it will rain?" his English idiom is received by a puzzled silence or a frank expression of ignorance as to the future—rarely, if ever, by a guess as to what is so much more determined and less variable than with us at home.

The better class of shops in Athens show evident traces of Western fashions and goods; France coming to the front in luxuries and millinery, and England supplying all the more solid appurtenances of civilized daily life, a glance at which latter is sufficient to make the drachma notes burn in the pocket with an uneasy heat that tends to force to its maturity the delicate flower of a bargain, for the "fixed price" is not, as yet, quite general in these houses of commerce. Dotted here and there in some of the principal business streets are small market stalls, sometimes perambulatory, sometimes permanent, on the counters of which are displayed brightly-colored oleographs of Saints of the Greek Church, with Russian lettering, that appeal to the religious instincts of the peasant "up at the Metropolis"; also pink wooden-handled knives calculated to charm any ordinary boy, at their price of 10 lepta (1*d.*) each.

As in most continental towns, the civilian element of the population is largely diluted by the presence of the military, who seem to be the proud possessors of almost as many officers as men, and whose ranks would not be so largely recruited were it not for that bugbear of the peasant, the conscription. The most striking uniform worn by any special regiment is perhaps that donned by the *Evzonais*, who are equipped in the *foustanella* and crimson Greek fez, with its long black or blue silk tassel; but they lose a great deal of their smart soldier-like appearance when constrained by stress of weather to assume their blue regulation overcoat, which descends to the knee, and so hides all the rakish effects of the white skirt. Some Greeks affirm, and others deny, that their nation would be the better for the abolishment of an army which is at present so numerically inferior to those of other Powers as to be but of little real use politically

situated as Greece is ; but perhaps its real *raison d'être* is to be found in the aspirations of the Pan-hellenic party, which its very existence serves to flatter.

For both military and civilians there is but a scant supply of "amusements" as represented by music and the drama, for the very good and sufficient reason that where the demand is but slight the supply cannot reasonably be expected to be very great. This does not necessarily imply that what they possess is unattractive, for surely a more naturally poetic theatre than the one at Phaleron, situated facing the deep-tinted sea and open to the softly-blowing even zephyrs, can hardly be imagined. No ! the Athenians do not want to be "amused" as we understand the word ; from their point of view, an open-air seat at a *café*, with the attendant political chit-chat, has an engrossing charm about it sufficient to occupy the liveliest imagination.

In taking leave of Athens, the seat of

so many memories of the Past—a Past that still lives in her glorious temples—one cannot help contrasting her claims to our admiration with that other giant of the ancient world—Rome, the City of the Seven Hills—Rome, whose fascinations gather increasing power over the educated mind the more they are scanned and the more familiar they become, yet which labors under the one disadvantage of a site that can in no way and from no point of view present the aggregate of her glories in the unrivalled majesty of plain and temple-crowned rock that meet the eye surveying the shrine of Pallas Athene.

A scene of solemnity and beauty that appeals to the senses of even those who have left unturned the pages of bygone ages, a scene that *per se* satisfies the soul and requires no Roman guide to refer to history in order to explain its loveliness, for its splendors are there before the eye.
—*Gentleman's Magazine*.

DREAM-HOME.

BY ROBERT BAIN.

THE glad fire danced ; my Lady sat and smiled,
And, golden-brown-haired at her feet, our child,
Our only boy, leaned grave-faced on her knee
And gazed as in the bright flames he could see
All that I told of done in by gone days,—
How the grim Borderers rode down moonlit ways
By the song-haunted Yarrow ; how Buccleugh
Scaled with his troop the Carlisle walls and blew
Clear, loud the Border challenge ; how the king
Died fighting in the centre of the ring ;
How, far upon the foreign fields of Spain,
The Douglas flung and won the heart again,
And how the maiden gave her loyal hand
To save the poet monarch of the land.
And then I changed and spoke of those I loved,—
My poets, who in loneliness had moved
And sorrow, through the bitterness of fate,
Had sown their own heart's love, and gathered hate,—
Till my voice sounded distant in the gloom.
But a great flash of Heaven across the room
Shone in the happy light upon the face
Of my dear wife, swift knitting in her place,
And so I told of all my poets sung
In the dear syllables of our dear tongue,
And how their lives were sorrowful with tears,
How great song rose from sorrow through the years,
And how they loved the sun, the very grass,

The flowers and all the living things that pass
 From the loved hand of God. My Lady wept
 With calm of wifely joy,—my dear boy slept,
 The broad light falling on his gentle face
 With all the joyousness of God's own grace.
 And I rose strong in heart, and, glad that I
 Had found my Heaven underneath the sky,
 I stooped to kiss my dear old sweetheart, when
 A darkness like the gray mist in a glen
 Came down and shadowed all, and I was left,
 Of my dream-wife, dream-child, dream-home bereft,
 Bereft forever,—and I sank in tears
 Before the empty world that filled my years
 Away, far down the future,—blindly caught
 My hands in agony of prayer and fought
 Against the dark soul-tempter,—cried for light
 Amid the wild waste of my spirit's night,
 Then weak in heart, and helpless, spirit-tossed,
 Cried to God's love for mercy ; I had loved and lost.

—Good Words.

THE RECENT ECLIPSE.

BY SIR R. S. BALL, LL.D., F.R.S.

THE total eclipse of the sun which took place on April 15-16 is in some respects the most remarkable event of the kind in the present century ; certainly no other like phenomenon occurring within the next decade will equal it in the presentation of exceptionally favorable conditions. It is obvious that there are two criteria by which we may judge of the suitability of an eclipse of the sun for the purposes of the astronomer ; the first relates to the astronomical conditions, and the second to those of a merely geographical character. Of course it must be understood that any eclipse which would disclose information sufficient to justify despatching an expedition for thousands of miles must be total. There is but little to be learned from any observations at a place from whence the disk of the sun appears only partly obscured by the interposition of the moon. Such an opportunity may, indeed, enable accurate determinations of the relative positions of the sun and the moon to be obtained which are often of service in our efforts to improve the tables by which the movements of the moon are calculated. But this object is of very slight importance compared with those which chiefly occupy our attention during a total eclipse. The primary question in determining the astronomical value of a total eclipse relates to

the duration of the phase in which the obscurity is total. Tested by this standard, the phenomenon which has just occurred is one of exceptional value. The phase of "totality" lasted for four minutes forty seconds on the east coast of Brazil. This may seem, indeed, but a short time in which to commence and complete an elaborate series of observations and measurements ; but by skilful organization of the work it is now possible for a corps of experienced observers to effect, even in this very limited time, an amount of careful work that would greatly surprise any one who was not acquainted with the resources of modern scientific methods. Indeed, on former occasions many successful eclipse observations have been made when the period of totality has been much less than that just stated. Even in the recent event which we are now considering, other stations in which the duration of totality has been much below the maximum have been occupied apparently with much advantage. Thus in Chili totality lasts for two minutes fifty six seconds. It is nine seconds longer in Argentina. It reaches the maximum for available terrestrial statistics on the east coast of Brazil ; but the actual maximum duration of four minutes forty-eight seconds would be observed from a point some hundreds of miles off in the Atlan-

tic. On the west coast of Africa, at Senegal, the duration is four minutes ten seconds. Expeditions from various nations have been despatched to the countries we have named. So far as the results are yet to hand, they indicate that on the whole there has been a degree of success which amply repays the trouble that has been taken and the expense that has been incurred.

To realize the conditions under which the eclipse is produced we must remark that, wherever the moon may happen to be, it bears at all times a long conical shadow projected behind it. The cone comes to a point at a distance which varies somewhat, but is about a quarter of a million miles from the moon. For the production of a total eclipse of the sun it is necessary that the eye which observes should be somewhere within the cone of shadow. Even when the moon does come in between the earth and the sun it will sometimes happen that the shadow cone is too short to touch the earth, in which case an annular eclipse will result. Sometimes, however, owing to the varying distances of the sun and the moon from the earth this cone does extend far enough to reach the earth, and then observers who happen to occupy any spot in the shadow will have a total eclipse presented to them.

About 1 P.M. Greenwich time, on Sunday, 16th April, the sun was rising in the Pacific Ocean in a state of total eclipse, the moon casting a deep black shadow on the shining waters around. This shadow was at first oval in form, and the shortest diameter extended some ninety miles north and south. The black patch then commenced its great eastward journey, and presently reached land on the coast of South America. The local time was then about half-past seven in the morning at the point of arrival on the coast of Chili, in 30° south latitude. Professor Pickering was among the first of an ardent corps of astronomers ready to greet the total eclipse and to utilize to the utmost the advantages of an early station. Then the shadow began its journey across the South American Continent. With a speed of something like 3000 miles an hour, far swifter than any rifle bullet ever moved, the silent obscurity sweeps across wide deserts in the interior, and then over the noble rivers and glorious forests of Brazil, to quit the land after the sojourn of barely an hour.

Along its track it has been watched in two or three places by interested observers armed with spectroscopes, photographic cameras, and the other paraphernalia of the modern astronomer. Doubtless the sudden gloom caused no little dismay to many a tribe of savages in the deep interior of tropical America. We may also conjecture that other creatures besides man will have had their share of astonishment. Darwin and Bates have charmed all readers by their exquisite delineation of those virgin forests of Brazil, where organic nature is developed with a luxuriance which those whose rambles have been confined to sterner climes have never been able to experience. Probably in Brazil, as elsewhere under similar conditions, tender plants evinced their belief that night had prematurely arrived. Beautiful flowers no doubt closed their petals as they are wont to do after sunset. Other flowers, again, which open out at night to solicit the attention of moths, to whom the darkness is congenial, doubtless began to expand their charms. With the advancing gloom such plants as emit their delicious perfume only when the glory of the day has vanished will have been likewise deceived by this eclipse, as they have been known to be on other occasions of a like kind. We can also speculate on the amazement which the total eclipse must have produced among the various races of animals. The great flocks of Brazilian macaws must have wondered why the time for going to roost has indeed arrived again so soon. The chattering monkeys and the skulking jaguar will have been sorely puzzled; while the marvellous nocturnal insect life which Mr. Bates has so forcibly described will have been deceived into temporary vitality. For some minutes it may be reasonably assumed that the forest depths must have resounded with those myriad notes of crickets and grasshoppers which appear to be one of the most striking features of night in the tropics.

Quitting the east coast of America, the lunar shadow took an Atlantic voyage. It crossed the ocean at perhaps its narrowest part, and may have buried in its gloom many a vessel whose crew gazed with astonishment at the unwonted spectacle. Here the conditions of good observation, so far as celestial requirements are concerned, would have been of the most desirable nature. The sun would be right

overhead and the fervid glories of the equatorial noon would have been suspended for the space of nearly five minutes. Splendid indeed must have been the view of the corona obtained by those who were fortunate enough to have been in the right position on the ocean, with a clear sky overhead. But from the astronomer's point of view the observations which can be made on board ship are of but little importance; the deck does not offer the stable foundations that are required for elaborate photographic or spectroscopic apparatus. For the space of an hour, therefore, while this ocean passage was in progress, there were but few opportunities, if indeed any, for valuable contributions of facts to illustrate our theories of the corona. The speed with which the shadow traversed the sea happens to be not so great as that with which it crossed South America. The consequence is, that rather more than an hour was occupied by the journey of the shadow from the American coast to the African coast. This ocean distance is only about half as long as the track pursued across the South American continent. Nevertheless, in consequence of the decline in speed about the middle of the eclipse, the time required by the ocean journey happens to have been about the same as that needed for the previous land journey. A few minutes after half-past three, Greenwich time, on Sunday 16th, the shadow reached land again, on the African coast, near the River Gambia, about north latitude 15° . Here the eclipse was destined to receive a cordial welcome from the bands of astronomers who were ready to receive it. Sweeping onward with a pace which had now begun again to accelerate, the shadow advances into the interior of Africa, keeping below the parallel of 20° , and gradually curving southward. At four o'clock on Sunday afternoon, the position from whence totality was to be observed had advanced to the east of the meridian of Greenwich. The end of the phenomenon was now rapidly approaching; the last glimpse that could be had of it from this globe would have been from the desert of Sahara, where, just at the moment of sunset, the phase of totality was reached. At a quarter-past four, the eclipse ceased to be total anywhere, but an hour longer had yet to elapse before the partial eclipse had vanished from the globe.

It is plain that the best sites, so far as astronomical conditions are concerned, must be those where the duration of totality is as long as practicable. To secure them, we must occupy sites which lie as nearly as possible in the middle of a strip, eighty miles wide, extending from the South Pacific to the middle of Sahara. It fortunately happens that on this occasion those localities where the astronomical conditions are favorable also turn out to be those where the geographical conditions are suitable and comparatively convenient. At Chili, in Argentina, in Brazil, and on the African coast, astronomers have been able to obtain a series of admirable positions, not often paralleled in eclipse observations. One special advantage offered by this chain of observing stations should be particularly noticed. It is a question of considerable importance to examine the nature of the changes which take place in the corona. It has sometimes been thought that such changes frequently occur with extreme rapidity. No doubt, when we remember the scale of the objects involved, it will hardly be imagined that in the brief interval of four or five minutes, during which the eclipse lasts, any variation in the corona should have taken place considerable enough to be recognized from the distance at which we are placed. If, however, the photographs obtained at Chili and in Africa should turn out to have been as successful as we have now good reason to hope, then we shall have the opportunity of carefully examining whatever changes may have taken place in the corona in the interval between the time of totality in Chili and the time of totality in Africa. As we have pointed out, this period is no less than two and a half hours. In this respect, the advantage offered by the present eclipse is almost unique, for though on other occasions observations of totality may have been possible for a number of seconds greater than those at either of the stations we have named, yet the circumstance of having in the same eclipse two occupied stations so widely separated as the western coast of North Africa and the western coast of South America is quite an exceptional advantage.

And now as to the problems which astronomers have proposed to themselves to solve when undertaking the observations of the recent eclipse of the sun. The

history of modern astronomy makes it plain that a remarkable change has taken place in the nature of the questions which specially demand attention during such phenomena. Twenty-five years ago a total eclipse was regarded as of special value, as it afforded us the opportunity of investigating those remarkable prominences or colored flames round the sun's margin which were then considered to be visible by no other method save that offered by the occasional occurrence of an eclipse. Attention was no doubt also directed in the earlier eclipses to the silvery corona which stretched from the sun to such a vast distance into the surrounding space. The corona, though a permanent appendage of the sun, was only to be recognized when by the direct interposition of the moon the light of the sun was cut off, and in the gloom thus arising the radiance of the corona became readily and even brightly discernible. But the memorable discovery made by Janssen and Lockyer, independently, in 1868, showed that the prominences could be observed without the help of an eclipse, by the happy employment of the peculiar refrangibility of the rosy light which these prominences emit. This improvement in observational astronomy revolutionized the method of utilizing eclipses. We are now so well acquainted with the forms of the prominences by the spectroscopic method that the eclipses have but little to teach us. Of course it will be admitted that there are many circumstances with regard to these objects as to which we at present know but very little; however, we do not look in any considerable degree to eclipses for their solution. Quite recently a further extension has been given to the spectroscopic method of studying solar prominences by the beautiful invention of Professor Hale of Chicago. He has employed a very elaborate apparatus by which he is able, as it were, to sift out from the sunlight the beams of that particular refrangibility which astronomers would denote by saying it belonged to the H line of the spectrum. With the light so chosen Professor Hale obtains a photograph. It so happens that in the light of this particular hue—an invisible hue, it may be added, only perceptible to the peculiar sensibility of the photographic plate—the prominences are peculiarly rich. It follows that when all other light is with-

drawn, as Professor Hale's method enables him to do, the ordinary solar light remaining has become so much weakened that it is no longer able to quench the beams from the prominences, and hence these are able to imprint an image on the photographic plate. Thus we can now obtain—not, as heretofore, merely isolated views of special prominences through the widely opened slit of the spectroscope—but we are furnished after a couple of minutes' exposure with a complete photograph of the prominences surrounding the sun. In Professor Hale's remarkable pictures, not only is every large prominence exhibited with ample detail, but the incandescent region of the chromosphere from which these prominences arise is also recorded with accuracy.

It may therefore be said that with this admirable process available the eclipse is no longer of much account for the purpose of instructing us as to the prominences. No doubt a pleasing picture of these objects may be afforded. Professor Pickering, indeed, describes them as of much interest on the recent occasion; but the attention of the eclipse observer in the present day is almost wholly directed in a different direction.

For the corona is still only known to us by such opportunities as eclipses present. No doubt attempts have been made by photographic methods of various kinds to enable the corona to be brought within our scrutiny under ordinary circumstances. Up to the present, however, success is not claimed to have rewarded these efforts. The sunlight is so intense that if it be reduced sufficiently by any artifice, the coronal light also suffers so much abatement that, owing to its initial feebleness, it ceases altogether to be visible. We are therefore wholly dependent on eclipses for accessions to our knowledge of the corona, so it will not be a matter of surprise that on the recent occasion the attention of the different parties has been almost entirely concentrated on the minute scrutiny of the corona by every device which is likely to throw light on its nature.

The astronomers of Great Britain had as usual taken a leading part in organizing plans for the purpose of observing this eclipse. A joint committee of the Royal Society, and of the Royal Astronomical Society, has had general charge of the arrangements. The sinews of war have

been chiefly provided from that liberal grant of £4000 a year which the State places at the disposal of the Royal Society for furthering the interests of science in such ways as may seem most advantageous.

Assistance of other kinds has been also forthcoming. The owners of valuable instruments have, in many cases, placed them at the disposal of the observers. The Admiralty has provided such facilities of transport as were needed to attain out-of-the-way places. The comity of nations has also been illustrated by the readiness with which the authorities of the French and Brazilian Governments respectively have complied with the requests made to them. They have afforded accommodation and courtesies to the parties on the coast of Brazil and in the French territory on the African coast to which the two British expeditions have been despatched.

A careful study of the meteorological conditions of the different localities was a necessary preliminary to the choice of stations. For it need hardly be said that, however suitable a station may have appeared to be from the astronomical facts of long duration and of high altitude of sun, yet if the locality in question were one likely to be obscured by clouds it would be somewhat improvident to despatch an expedition to a place where the chances of success were so greatly jeopardized. Perhaps the most elaborate study of the meteorological conditions bearing on the question is contained in a paper contributed by Prof. David P. Todd to the *Meteorological Journal*. In this he brings together a mass of information collected from divers authentic sources. The inhabitants of Chili were able to report that the observations of any celestial phenomena which take place in April were almost certain to be made in a cloudless sky. Indeed it appears that in the mountainous regions of that favored climate the atmospheric conditions are almost ideally perfect for the purposes of the astronomer. The course of the shadow then lay through Argentina, where the residents assure us that April is the best month in the year for clear atmosphere and light skies, and that it could only be by some exceptional misfortune that the observers would meet with disappointment. Reading this in any other spring than this present season of extraordinary mildness and purity, we dwellers in these latitudes would feel en-

vious of those whose homes lay in climates when a cloudy day in April was spoken of as a wholly exceptional misfortune. In Paraguay, which the shadow next traversed, it seems that meteorological zeal has not yet been kindled. No accurate information as to the clouds or weather to be expected in April was forthcoming in response to Mr. Todd's urgent inquiries. In despair of being able to offer climatic inducements to the expedition he expresses a hope that any eclipse party despatched there might include zealous naturalists. To them he thinks that the attractions offered by pumas, jaguars, cobras, and cross vipers in abundance may "offset the possible loss of the corona to the astronomer." But it may well be doubted whether the enthusiasm of the astronomer, who studies with much interest *Serpens* and *Draco* in the skies, will have been sufficient to have induced him to journey all the way to Paraguay in expectation of becoming acquainted with their terrestrial representatives, possibly on closer terms than he could desire.

At Brazil, where the astronomical conditions are of the best, the risk of clouds was considerable. It seems that about half of the days in April on the coast at Para Cura are likely to be obscured. Fortunately, however, the observers were favored with good weather. It is, moreover, possible that stations in the interior of Brazil, where their conditions are more favorable, have also been occupied by observers. Pains had also been taken to determine the probable cloudiness at this season along the Atlantic track followed by the shadow. Now that the phenomenon is over there is no necessity for alluding to more than the final result of the inquiries. They showed that the probability of a clear sky at midday in April at any point along the track followed by the eclipse from Ceara, where the central line leaves the coast in Brazil, to Gambia, on the other side of the Atlantic, is about one half.

It was not possible to obtain any very definite information as to the extent of April cloudiness in the interior parts of Africa which were passed over by the lunar shadow ere it quitted the earth finally. It seems, however, impossible to doubt that an expedition might have been despatched to some locality in the far interior of Senegal or Sahara, where the at-

mospheric conditions would have been excellent. The advantage of occupying such a position would have been obvious. A continuous chain of observations of the corona would then have been available from the time the sun was rising on the coast of South America to the time of sunset in Sahara. The great advantage of such an expedition would have been that it would have afforded an opportunity for testing in the completest manner whether the corona submitted to these rapid changes in the few hours to which we have already referred. The present eclipse was admirably suited for this investigation, for the terrestrial conditions were such as to enable the observations to be made both at the beginning and the end of the phenomenon. Further, as the sun spots are now very abundant, it is presumed that the sun is at present in a condition of exceptional activity, and consequently it seemed reasonable to suppose that, in sympathy with what was going on below, the corona would be in a disturbed state at present. Unfortunately, however, it has not been found practicable on this occasion to make use of the extreme end of the track of the shadow.

The English Brazilian party, consisting of Messrs. Taylor and Shackleton, were stationed at Para Cura. The African party was organized on a somewhat larger scale. Professor Thorpe was placed in command of it, and he was accompanied by Lieutenant Hills, R.E., Sergeant Kearney, R.E., and Messrs. Fowler, Gray, and Forbes, from the Royal College of Science. They were despatched to Bathurst, thence to make their way to a station in French Senegambia only a few miles south of the central line of totality.

It would be impossible for us to describe fully in this paper the different lines of observation which have been undertaken by the several members of the two parties. I can only just mention one or two of the special classes of work which, so far as the information yet received is available, seem to have been successfully accomplished. As the pictures of the corona vary so much with the instrument employed, it is clearly desirable to have some means of discriminating between the actual changes which may have taken place in the structure of the corona itself between one eclipse and the next, and those changes in the representation of it which

merely arise from instrumental differences. There is no means of attaining this end so simply and so securely as to provide that the same photographic apparatus shall be used on each occasion. For this reason it is satisfactory to learn that the corona has been photographed in Africa on Sunday, the 16th instant, with the same 4-inch lense of 60 inches focus which was used in Egypt in 1882, in the Caroline Islands in 1883, in Granada in 1886, and in the Salut Islands in 1889. We have thus a connected series of pictures of the corona, taken as far as possible under similar conditions, extending over a period of eleven years.

Particular interest will be attached to the department of work assigned to Mr. Fowler in Africa. He has photographed the spectrum of the corona, produced by placing a glass prism in front of an object-glass of six inches aperture. If his pictures are as successful as we hope they will prove to be on development, they ought to throw much light on the nature of the corona. The peculiar advantage of this method of observing is that for each source of light of special refrangibility in the corona a distinct image of the corona will be impressed on the plate. If, for example, the coronal light was of that strictly monochromatic type which the light of certain nebulae appears to be, then the coronal photograph as produced through the prism would represent the details of the structure in a single definite picture. If, however, as seems much more likely, the corona diffused light of two or more different refrangibilities, then separate pictures of it would be depicted in distinct positions on the plate, in correspondence with each of the constituent rays. The several pictures that are thus obtained would be indications of the different kinds of light of which the corona was composed. So far as these various simulacra can be discriminated and interpreted, they will afford indications of the material constituents of the luminous substances from which they originate. It need not be expected that these several pictures should resemble each other. If the different parts of the corona contain different elements in their constitution, as is certainly most probable, then the several pictures will evidence this by their difference in outline. No doubt the different photographs may to some extent overlap,

but though this will interfere with the pictorial effect, it will not prevent their interpretation in the sense that is instructive to the astronomer.

One of the most remarkable features in the structure of the corona are the presence of streamers or luminous rays extending from the north and south poles of the sun. These rays are generally more or less curved, and it is doubtful whether the phenomena they exhibit are not in some way a consequence of the rotation of the sun. This consideration is connected with the question as to how far the corona itself shares in that rotation of the sun with which astronomers are familiar. I should perhaps rather have said—that rotation of the sun's photosphere, which, as the sun-spots prove, is accomplished once every twenty-five days. Even this shell of luminous matter does not revolve as a rigid mass would do. By some mysterious law the equatorial portions accomplish their revolution in a shorter period than is required by those zones of the photosphere which lie nearer the north and south poles of the luminary. As to how the parts of the sun which are interior to the photosphere may revolve, we are quite ignorant. Nor does there seem much likelihood of any discoveries being made which will clear up this matter. Up to the present we have no means of knowing to what extent the corona shares in the rotation. It would seem certain that the lower parts which lie comparatively near the surface must be affected by the rapid rotation of the photosphere. But it is very far from certain that this rotation can be shared in to any great extent by these parts of the corona which lie at a distance from the sun's surface as great as the solar radius or diameter. The study of the photographs may be expected to throw some light on this subject; especially will this be the case if the pic-

tures taken at different parts of the track at an interval of two hours or more admit of satisfactory comparison.

The spectroscopic testimony forms of course an exclusive source of information as to the nature of the elementary bodies present in the corona. Up to the present it must be admitted that our knowledge on this subject is rather of a negative character. The spectroscope has hitherto mainly afforded us indications of elements which seem to be undeterminable by our knowledge of terrestrial chemistry. Professor Schuster, after a careful discussion of the evidence afforded by other eclipses, has come to the conclusion that it is not at present possible to identify the lines specially characteristic of the coronal spectrum with those of any known terrestrial substances. Indeed, the corona presents a curious green line that seems to denote some invariable constituent in the sun's outer atmosphere; but the element to which this green line owes its origin is wholly unknown. It has been conjectured that it is due to some body present in the sun which is unknown to terrestrial chemists. The elucidation of this question is from every point of view one of the most interesting problems in solar physics.

The information to hand assures us that the observers under Professor Thorpe on the west coast of Africa, have been favored with weather which permitted them to carry out almost their entire programme. Of course, until the photographs have been developed and studied it will not be possible to pronounce emphatically as to the information they have attained. With the success at Para Cura, and of Professor Pickering on the other side of South America, there is excellent reason for the hope that the eclipse just over will result in valuable accessions to astronomical knowledge.—*Contemporary Review*.

LAST WILLS AND TESTAMENTS.

"LONG life to the man who makes his own will!" So say the lawyers, most sincerely, feeling sure that a home made testament will some day afford them plenty of work and numerous fees. But though it be dangerous for a man to make his own will without legal assistance, yet it is not

safe for him to omit making it altogether; unless, indeed, he is content to leave it to the Law to dispose of his estate according to its very just and equitable codes. Yet, if he has any special wishes as to the disposition of his estate, it will be wise of him to prepare a special document setting

them forth; and it will also be wise to execute this document as soon as he possesses any property of which he can so dispose.

There was, some five or six centuries ago, a fundamental difference between a Testament and a Will, into which I need not enter here, as in this paper I shall use the two terms indifferently. Testaments and wills are productions of civilized life; no such documents are known in the earliest days of any nation. Even among the Romans, whose law has remained as a model and basis for our own, the practice of making wills only grew up after centuries of civil life. They had no law of primogeniture, though it is supposed in most cases where the father had owned land some private arrangement was made among the sons by which the eldest became heir or successor. A daughter had no claim whatever on her father's estate, and a married woman was no longer one of her father's family, but of that of her husband.

When the custom of making wills grew up among the Romans a father could regulate the succession of his sons by testament. Dr. Muirhead, Professor of Roman Law in the University of Edinburgh, says that "Patrician Rome had two varieties of testament—that made . . . under advice of the College of Pontiffs, and that made by soldiers in the hearing of a few comrades on the eve of battle.* . . . Both still remained in use in the early republic; but were in course of time displaced by the general adoption of that executed with the copper and scales (*testamentum per æs et libram*).

This curious expression, *with the copper and scales*, takes us back to the earliest and most barbarous ages of Rome, to the time when a man bought his wife as he bought his goods and chattels. It reminds us that there was a time when coin was not used in barter, but metal was weighed in exchange for commodities. This method of purchase has left its traces

in our word *pound* of money, and in the French *livre*, and in their equivalents in other tongues. In the old Roman days, when a man bought land, food, or what not, he weighed out the price in copper; later on, when the primæval practice of taking a wife by forcibly carrying a woman away from her family had yielded among the patricians to the custom of buying her, the bridegroom purchased her, like other things, by *copper and scales*; the next step, according to Dr. Muirhead, was the adoption of this method of marriage by the plebeians. "The scales, the *libripens*, and the five witnesses were all there; but as there was no real price to be paid, the only copper that was needed was a single *raudusculum*." This form of purchase reminds us of the nominal rent among ourselves of a peppercorn; and of such curious tenures as the famous Caistor gadwhip, and the roses in other places. The testaments made on the eve of battle or before the College of Pontiffs "were in course of time replaced by the general adoption of that executed with the copper and scales," which kind of will is sometimes represented as a written instrument, but is supposed by Dr. Muirhead not to have been a testament but a makeshift for one. The "copper and the scales" lingered on as a legal term, but had no longer an actual existence; much as the red adhesive wafer affixed to a modern lease only represents the wax seal of former times.

We find that the next stage in the history of the testament was "marked by the introduction of tablets in which the testamentary provisions were set out in writing;" and to make this kind of will valid the copper and the scales were still introduced. After the testator had declared to his witnesses that the tablets contained his testament, they were "sealed by testator, officials, and witnesses, the seals being on the outside, and over the cord with which the tablets were tied." Thus we perceive that the witnesses sealed, but did not sign, the testator's tablets. In the case of the will made on the eve of battle neither testator nor witnesses could sign or seal; the whole affair was merely verbal. It was the *intention* of the testator to which the witnesses bore testimony; and the *intention* of the testator is that which the law seeks to carry out, now as then. So Professor Lorimer, in his

* Called a *nuncupative* will, "from the word *nuncupatio*, a term of the civil law, originally used to express the declaration of the testator's intentions, whether the testament was written or not; but later usage appropriated the term '*nuncupative*' to testaments where there was no written will, and where the testator declared his wishes orally."—R. R. Sharpe, *Cal. of Wills*, etc. "*Nuncupare est palam nominare*,"—*Gaius*.

"Handbook of the Law of Scotland," remarks: "Whatever can be positively ascertained to have been the wish of the deceased with reference to . . . his property, will be carried into effect, provided that they are neither inconsistent with public law, immoral, insane, nor impossible. The will of a fool being thus valid, and that of a madman invalid, many of the difficulties which arise in judging of the validity of wills are occasioned by the uncertainty of the line which divides folly from madness." It was laid down, somewhat satirically, by a Scottish judge that "a testament does not require the same degree of mind as in making a bargain; it is sufficient if the party be capable of judging of each part as it is presented to him."

A man's will naturally is of vital interest to his heirs and successors; but it may concern many others beyond that small circle. It may be an historic record of the state of the country and of the Church at the time when it is made; it may throw light on religious and civil customs likely to pass away; it may show the real character of the testator and of his contemporaries. Indeed, the learned Surtees Society has thought it well to devote much time and labor to the subject of early *wills and inventories*; and from the volumes published by that Society I draw much of my information.

The will of William de Karileph, Bishop of Durham, founder of the present Cathedral, who died in 1095: he left with his will an inventory of the books which he bequeathed to the Church. Flambard, Pudsey, Poor, and other Bishops of Durham did the same. These wills were entirely in Latin, as were at that time those of lay people, men and women. Most of them contain provision for Masses for the repose of the souls of the testators. As we come down the centuries the documents grow more interesting; English is used in codicils and interspersed with the Latin of the lawyers. Matilda, Lady of Dalden, wife of Sir William Bowes, Knight, bequeathed to one of her goddaughters "j romance boke is called ye gospelles." Why she called the Gospels a "romance-book" is an undecided question. To another lady she left "unum librum yat is called Trystram," the *Sir Tristram* of Thomas the Rhymer, indubitably a romance. The will of John Trol-

lop, Esq., of Thornley, was witnessed by Lionel de Claxton, who when young was a schoolboy at Durham. He had a fight with a schoolfellow in the Abbey churchyard, and one side or the other sustained a damaged nose; it became necessary to reconsecrate the churchyard, which had been desecrated by the shedding of blood!

The will of John Bancks, "laboringe man," 1542, disposes of more than three acres and cow; his body is to be buried in the church of Gateshead, "with all the prests and clerks therto belonging." To his son George he leaves two houses, to his son Thomas another house, to Margerye his daughter six sheep; there are also other bequests. The special bequests of cloaks, caps, kirtles, gowns, etc., in the sixteenth century indicate that clothing must have been far more valuable and more durable then than now. An inventory of the goods of Richard Swinborne shows that he died possessed of twenty pounds in gold, two chests, two pair of tongs, two daggers, one sword, with certain tackett nails, one hammer, and his raiment; a curious list of goods and chattels.

John de Warenne, eighth and last Earl of Surrey of his family, left a will in the French language; it is a valuable document in the eyes of antiquaries; one remarkable bequest is that to his son William of "ma bible que j'ai fait faire en Fraunceys." Provision is generally made in these ancient wills for candles to burn on the day of the testator's funeral, or at other times during High Mass. Roger de Fauconberg, 1391, orders "pro luminare circa corpus meum, die sepulture meæ, v tapers continentes quilibet iiii libras ceræ." Margery, widow of Sir William de Aldeburgh, in her will dated 1591, leaves to her late husband's old nurse a scarlet gown set with fur. Sir William Mowbray, of Colton, desires that one taper shall be "entour mon corps, saunz plus lune . . . on aucun autre vaynglory entour mon vile corps." The mixture of English which alloys these testaments, composed mainly in old French, makes them very quaint and curious. John of Eston of Scardburgh leaves 2*d*. "pro pulsacione campanarum et le belman portand" campanum," etc. Nicholas de Schiebrun mentions "unam eistam de fir, ferro ligatum, et unum er pyk"—that is to say, "one chest of fir wood, bound with iron, and one ear-pick." John Croxton of

Yorke, chaundler, composed his will entirely in English; he is lavish of wax candles to be burned on the day of his funeral, and also gives "an ymage of iiij pund of wax & xxiiij lb. of wax to the segirstane * to the fynding of the hegh auter." Even in death he sought to benefit his own trade. John Fairfax, Rector of Prestcote, ordered a public dinner to celebrate his burying: six oxen, twenty sheep, six quarters of wheat, and ten of malt, were to be provided. Scales, if not copper, were here needed on a large scale, if I may be allowed to say so.

I have spoken above of the verbal wills made by Roman soldiers on the eve of battle: the Surtees Society prints entire a will made by Sir Ralph Newmarche of Whatton, Notts, and of Bentley, Yorks, on the battlefield of Shrewsbury, probably, as the learned editor suggests, after he had received his fatal wound. It is in Latin, but in English would run thus: "In the name of God, Amen. 22nd day of July, 1403,† I, Ralph Newmarche, Knight, of Whatton, make my nuncupative will in this manner. First I bequeath my soul to Almighty God, Blessed Mary, and all the Saints, and my body to ecclesiastical sepulture. I leave all my goods to Elizabeth my wife, and to pay my debts, and to provide for the welfare of my soul. I also constitute Elizabeth my wife my executrix. Given at Salop the above-named day and year." Another very touching document is the will of William Manning, dated from the leper-house of Monkbridge in York: he gives half a pound of wax to be burned at his funeral, sixpence to the works going on in York Minster, sixpence to the Monks of Knaresborough, and the residue to his wife. In 1442, John Pudsey, a tradesman, made a short will; in it he left to "Thomæ Hirste, skynner, arcum meum cum le grene balt, et vij sagittas pacock-federde." No doubt peacock-feathered arrows were much esteemed in those days. And women's dress must have been more highly thought of than it is now, for the female testators always name their garments; as, for instance, Agnes Selby, in 1464, leaves a black gown and a green one to Agnes Hastings, and her second-best green gown to Joan Hastings. And yet,

oddly enough, it appears from a clause in the will of Sir John Scrope, fourth Lord Scrope of Masham and Upsal, "that the Parliament robe of a peer became, upon his death, the perquisite of his servants, and that if his family wished to retain it, money was to be paid for its redemption."

Toward the end of the sixteenth century wills were no longer drawn up in Latin, but in English; no doubt when the Latin language gave way to the vernacular in the services of the Church it did the same in legal documents. William Preston, 1581, enumerates his "blacke clocke lynned with bayes," his "payre of grograyne brichis," his "blacke dobleat of Doche fostyone," his "rosset breeches of brod-cloth," his "payre of knyte hose," and "all his showes," as well as his "bockes ledar gloves;" these, and some other articles of wearing apparel, are left as bequests. The great number of horses belonging to some of the testators whose wills are before me is very remarkable. William Emerson, 1584, possessed at his death seven horses and mares; Ralph Richeson, 1585, had seven; William Grey, miller, 1585, four; Nicholas Ridley, 1586, five. In days when all travelling was done on horseback the stables of ordinary middle-class persons must have been well filled with *nagges* and *meares*: Richard Briscoe left seventeen. The value of such animals seems to have varied from £1 to £5. "An old angell" was a frequent legacy, often said to be "as a token."

When we come to the subject of curious clauses in wills, we find a sort of grim humor connected with the prospect of death and the last offices of religion. One Thomas Broke, landowner, 1417, desired to be buried without coffin or lid, but only in a "grete clothe"—this by way of humility. Lady Peryne Clanbowe, 1422, gives to Elizabeth Joye a "booke of Englyssh cleped 'Poor Caytife,'" which book was a collection of tracts against abuses in the Church of Rome. Sir Roger Salwyn, Knight, of York, 1420, says: "I will that som goode man be ordeine to goo for to Iherusalem in pilgremage and as far as is cost is less than C'li in commyng and goyng;" this is for the good of the testator's soul, and gives one a glimpse of the tourist of the fifteenth century. William Newland, of London and Normandy, 1425, desires "a man to be

* I presume, *sacristan*.

† The battle was fought on July 20, 1403.

found to go to Rome and to Jerusalem," another to go from the *Sword* in Fleet Street unto Canterbury barefoot, another to ride or go unto St. Michael's Mount, and another to St. James of Compostella; their expenses to be paid. The pilgrim who went barefoot must have envied the other three. Richard Bokeland, London, 1436, left money that a million Masses might be said for his soul. If said at the rate of one a day they would extend over three thousand years; if at the rate of three a day, which would be a tolerably rapid progress, they should now have still more than six hundred years to run! The above curious clauses are gleaned from Mr. F. J. Furnivall's "Fifty Earliest English Wills in the Court of Probate."

In a volume entitled "Wills from Doctors' Commons" are printed the testaments of some noted persons. One is that of Sir Hugh Myddelton, 1631, and deals chiefly with his property in the New River Waterworks. The only humorous clause is this: "I give and bequeath to all my men servants (except the boy in kitchen) five pounds each;" the said boy is to have "fortie shillings." Sir Henry Vie, of Guernsey, 1669, leaves £3 to his boy Robert Browne. The will of Elizabeth, daughter of James I. and wife of Frederick V., Prince of the Palatinate, has a painful interest. She urged her husband to put himself at the head of the Protestant princes; he was elected king by the Bohemians, who were aiming at the downfall of the Emperor Ferdinand II. This document, dated 1661, is in French, and couched in the first person plural, with such awkward expressions as "*à ma fille nous donnons*;" the unhappy Queen appears to have had little to dispose of beyond her personal jewels. Speaker Lenthall wishes to be buried under a "plain stone with this superscription only, *Vermis sum*." This, surely, was conscious humor, though, perhaps *worms*—not a *worm*—would have been more appropriate a short time after his interment. Richard Baxter, the author of the "Saints' Rest," in his testament of 1689, leaves money to be spent on "flannen wascoats" for poor Londoners.

In those large volumes entitled "Calendar of Wills proved and enrolled in the Court of Husting, London," edited by Reginald R. Sharpe, D.C.L., we find some very curious facts scattered through

an enormous mass of information without much interest for the ordinary reader except as regards the editor's foot-notes; a few of these plums I have picked out from the indigestible dough in which they are embedded. I know that Dr. Sharpe will pardon my irreverence toward his splendid work. The wills of which he prints abstracts were enrolled between the years 1258 and 1685; and he says in his introduction that those of the years 1348-49 far exceed in number those of any other years, owing, in all probability, to the awful plague, known as the Black Death, which at that time ravaged all Northern Europe. Whole families were swept away together. The will of Nicholas de Barton mentions his wife Alice, but before the will was proved she too was dead. Benedict, son and executor to his father Richard de Shordich, died before the probate was granted; Thomas Fraunceys makes certain bequests to Agnes his wife, but her will closely follows his on the roll; and the wills of Richard de Stokwell and Hugh his son were proved on the same day. Occasionally a will was enrolled during the testator's lifetime; for Richard de Stratford and William Kelwedon brought their wills into court for the purpose of probate.

John de Kyrkeby, Bishop of Ely, 1290, bequeathed "to the bishopric of Ely all his houses at Holeburne in the suburb of London, together with vines, gardens, and other appurtenances, in pure and perpetual alms." Dr. Sharpe says, in a note, that the "gardens" are now known as Ely Place; and that "the gardens attached to the bishop's palace, which survive only in the name of Hatton Garden, were a characteristic feature of the neighborhood." He then quotes the well-known passage from Shakespeare's *Richard III.*, act iii. scene iv., and adds: "Vine Street still bears witness to the Bishop's vineyard, as Kirby Street still recalls the Bishop's name."

About the beginning of the fourteenth century "London Bridge" appears often as a legatee, citizens leaving money for the building works there going on. Margery Bachelier gives her gold wedding-ring to London Bridge!

Walter le Taillour de Alegate devised "to Richard his son the reversion of a tenement held by Richard le Bakere for life, receiving yearly, immediately after

the testator's death, a rent of half a mark, and weekly one penitourte in respect of the said tenement." The penitourte was a penny tart!

William de Elsingg, mercer, left tenements and rents to build and endow a hospital for the poor of both sexes, 1348. This foundation was first known as Elsing Spittle, and afterward as Sion College. It had been established by the testator during his life with a *custos* and four secular priests, but he had changed the secular canons for canons regular of the Order of St. Augustin, the Bishop of London adding one to their number. Among the innumerable "pious uses" for which provision is made in all wills before the Reformation, we find this by William de Rothyng, merchant, 1349: "To the Hospital of St. Thomas in Suthwerk an annual quitrent for the maintenance of a lamp to burn by night among the weak and sickly there housed." Not a few wealthy citizens left money to anchorites (Richard de Walsted, 1365, left bequests to the anchoresses—i.e., female anchorites of London), and hermits living within the boundaries of London. John de Holeygh, hosier, 1351-52, left an immense number of pious bequests—to orphans, to pilgrims, to lepers, to anchorites; to every one going with naked feet to offer a penny at the shrine of Blessed Mary of Walsyngham; for an image of St. Mary, and a crown for it; and for a copy of his testament to be written in a missal to be used at the high altar of St. Mary-le-Bow. One Johanna Cros desires that eleven thousand *Paternosters* and so many *Aves* be said in honor of the eleven thousand virgins of Cologne, of whom it is recorded, says Dr. Sharpe, that relics were found in the cross of the belfry of St. Paul's in 1313-14.

About this time Londoners began to mention gifts of books in their wills; and Simon Bristowe, clerk, 1374, leaves his portifory with music lying in quires to the church of St. Mary Aldermanbury. John de Kenyngton, Rector of St. Dunstan's toward the Tower, left a book of the Epistles to that church, and also money to buy books. But we find little encouragement given in these early times to literature or learning. Nearly two hundred years later, in 1557, Thomas Lewen, ironmonger, directs that the sum of five pounds shall be divided between two poor scholars, one

to be of Oxford and the other of Cambridge; and Dr. Sharpe adds in a note that "the sum of £15 is now paid yearly to each of the exhibitioners, instead of £2 10s." During the latter part of the reign of Henry VIII. bequests for "pious uses" became rare, and the last of such bequests is made by John Watson, brewer, 1544. Candles, Masses, and trentals* have disappeared from wills, and companies (no longer called guilds), hospitals, scholars, and prisoners appear more frequently as legatees. The will of Sir Thomas Gresham, mercer, 1579, indicates the estimation in which the new learning was held in Elizabeth's reign; he provides that lectures shall be read on divinity, astronomy, music, geometry, law, physic, and rhetoric. "None to be chosen to read lectures so long as he be married." The Gresham Lectures are still a power in the land; I do not know whether the lecturers are at this day exclusively bachelors and widowers!

In 1585, Edmund Bragge, haberdasher, being *in extremis*, made a nuncupative will. "Upon Roger his son asking him, 'What will you geve my mother?' meaning Elizabeth, wife of the testator, he then and there replied: 'I have saide already threescore poundes a yeare yf my lande will soe farre extende, she to be owner of the lande.' And the aforesaid Elizabeth then asked: 'What will you give your sonne Edward?' to which the testator replied: 'I will geve him thititie poundes a yeare. I can geve him noe lesse.'" I quote this in full as a specimen of a nuncupative will, whether made by a Roman soldier on the eve of battle or by a citizen of London on his deathbed.†

Strange and eccentric bequests are seldom found in early wills, which mostly bear a strong family likeness. But I may mention that John Northampton, draper, 1397, left to the Carthusian monks of London each half a pound of ginger; and, every Lent, a pound of dates, a pound of figs, and a pound of raisins. Our modern young Carthusians would be pleased if the legacy extended to them.

* Thirty Masses.

† "The setting up of nuncupative wills became so often associated with fraud that the Legislature interposed, and such wills were practically abolished by the stringent provisions enacted with respect to them by the Statute of Frauds (29 Car. II. c. 3)."—R. R. Sharpe, *Cat. of Wills*, etc.

Some curious actions concerning wills are recorded in Shaw's "Digest of Cases." "A deed of settlement by a man seventy-seven years old, who could not read writing, in favor of his agent, which was scrolled by the agent without any evidence of instructions, and not read over and not delivered to the grantee, but retained by the agent till the grantee's death," was "set aside." This seems to have been a case in which the grantee's imbecility was only equalled by the agent's roguery. Shaw mentions a "question as to the construction of a clause bequeathing to a lady who resided with the testator 'the whole of the furniture in her own room and any other she may choose.'" Might she not choose every bit of furniture in the house? The words were held to be "limited to a power of choosing liberally, but fairly, any other articles of similar extent and value with the furniture of her own bedroom." That interpretation seems to have been suggested by common sense; but what uncommon sense was it which suggested "a direction by an uncle in a deed of settlement, to trustees, that they should pay certain sums to his nephew (who was his heir *alioqui successurus*) on condition that he should not reside in the same house with his mother." Yet this strange condition was "held to be lawful."

The famous Thellusson Will case is, perhaps, the most extraordinary legal action dealing with a testamentary document which has ever come before the English public. One Peter Thellusson, a native of Geneva, settled in London as a merchant and acquired an enormous fortune. He died in 1797 at Plaistow, in

Kent, leaving to his widow and six children about £100,000. There was also some £600,000 which he left to trustees to invest; this sum was to accumulate during the lives of his three sons and of all his grandsons; and then the result of this scheme was to become the property of the eldest male descendant of his three sons, with benefit of survivorship. This will was established by decree of the House of Lords in 1805. All went quietly until the testator's last grandson died in 1856. Then the question arose as to whether the eldest male descendant, or the male descendant of the eldest son, should inherit. After three years the House of Lords decided for the latter. It is said that the legal expenses attending the dispute brought the property down to about its original value. An Act of Parliament was passed to prevent a testator from leaving his property to accumulate during more than twenty-one years after his death. This Act was passed in the year 1800, and is commonly known as the Thellusson Act.

A cursory glance at mediæval wills shows that but a few baptismal names were in use among the men of those days. John, Roger, William, Richard, Nicholas recur again and again with extraordinary monotony; but the female names present a bewildering variety. From them I select, for the consideration of parents and sponsors, a few of the more remarkable: Cynga, Gunnora, Hodierna, Tiffania, Slynina, Lenota, Orabilia, Goldcorn, Idonea, Milsenda, Helewysia, Chera, Celestria, Roesia, Freschessaunchia.—*Cornhill Magazine*.

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THE REAL REJECTED ADDRESSES.

A CHAPTER IN THE HISTORY OF THEATRICAL LITERATURE.

BY ROBERT W. LOWE.

THE story of James and Horace Smith's "Rejected Addresses" is one of the most familiar chapters of literary history. Every one knows how the committee of wisacres, under whose management Drury Lane Theatre was rebuilt after its destruction by fire in 1809, conceived the brilliant idea of advertising for a poetical address, to be spoken on the opening night.

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The advertisement, which appeared in the "Morning Herald" of 8th and 14th August, 1812, was in these terms:—

"REBUILDING OF DRURY LANE THEATRE.—The Committee are desirous of promoting a free and fair competition for an Address to be spoken upon the opening of the Theatre, which will take place on the 10th of October next. They have therefore thought fit to an-

nounce to the public, that they will be glad to receive any such compositions, addressed to their Secretary, at the Treasury-office in Drury Lane, on or before the 10th of September, sealed up, with a distinguishing word, number, or motto, on the cover, corresponding with the inscription on a separate sealed paper, containing the name of the author, which will not be opened unless containing the name of the successful candidate."

It is unnecessary here to repeat the often-told story of the happy thought which led the brothers Smith to publish a series of mock Addresses, supposed to have been submitted to the Committee of Drury Lane by the leading poets of the day. Our business is with the unknown or forgotten real competitors: with the tragedy, or at least the tragi-comedy, not the farce.

One effectual reason why so little is remembered of the genuine Addresses is, that so little has ever been known about them. Some of them were published, no doubt; but the competitors who allowed their works to be made public were writers of no note. Their dull, serious productions were completely overshadowed by the brilliant humor of the burlesque poems, and made no impression either on the public of the day or on literary history. And, by the circumstances of the case, a history of the competition and the competitors was impossible, for secrecy was the keynote of the transaction. The advertisement of the Committee promised that no envelope should be opened save that of the successful competitor, and this implied the destruction of the other envelopes unopened. But the Committee did not take such a high view of their obligations of honor. The envelopes were not destroyed; and the whole collection—the original manuscript Addresses, with their relative envelopes, now no longer unopened—exists to this day. A few of the competitors seem to have recovered their poems, but the envelopes have been preserved. The notes which have been made on these interesting old papers give a clew to the history of their preservation. Many of them bear the initials "J. W."—that is, James Winston, the first manager of the Garrick Club. The papers were no doubt preserved among the archives of Drury Lane, and came into Winston's possession during the reign of Elliston, to whom he acted as factotum. A keen collector, Winston saw the value of

the manuscripts, arranged, annotated, and bound them. They were disposed of at his sale in December, 1849, and in 1868 they became the property of the British Museum.

The Addresses preserved are 114 in number, and with them are preserved the folded sheets of paper which contained the names of the competitors. These are of all ranks in the social, as in the literary, scale. David Huston, a compositor in Gye's printing-office, rubs shoulders with John Gorton, sub-editor of the "Globe;" and William Burton, painter and glazier, is fellow-competitor with the Honorable George Lamb, himself a member of the dread Committee, and with John Pytcher, Esquire, "late M.P. for Sudbury."

Of the well-known writers whose names are revealed by the examination of these curious documents, the most notable is Mary Russell Mitford, who chose for her motto the words, "Mark how this becomes the house." Miss Mitford was at this time in her twenty-sixth year, and her dramatic successes were in the dim and distant future; but her thoughts were already turned toward the applause of the theatre, and she probably hoped to gain an introduction to the management by a successful address. But her poetical effort, it must be confessed, was scarcely calculated to impress the Committee. It traced the Drama from its earliest infancy up to the evening of the 10th October, 1812, when it was supposed to reach its perfect strength. The first picture is the Drama Primitive, the description of which winds up with the extraordinary lines:—

"Such was the Drama, when its course began;
So impotent! so rude! for such was man."

But the poetess surpasses herself in the description of the burning of the theatre:—

"None can forget its fall. It was a night
Of pain and anguish, horror and affright.
To aid or mourn th' assembled Senate sped;
E'en the dull peasant, starting from his bed,
Cried, 'London is in flames!' as blazed the

Dome,
And blessed the God who gave his village home.

The artisan his shrieking infant grasped;
The wife more fondly her sick husband clasped;
Needless to them the taper's feeble ray,
A light was there which mocked the garish day."

With which burst of fine language we may take leave of Miss Mitford.

Among her rivals were some well-known literary personages. George Daniel, the eminent theatrical antiquary, who lived till 1864, was a young man of two-and-twenty when he sent in his Address with the motto—

"Bold be the critic, zealous to his trust,
Like the firm judge, inexorably just."

Daniel is best known as the D— G., who edited Cumberland's edition of Plays, his prefaces to which are of considerable value.

Edmund Belchambers is another competitor whose name is familiar to students of theatrical literature, for he was the first to edit Colley Cibber's "Apology," and his edition is still held in some estimation. He was a familiar theatrical figure, having married Miss Singleton, an actress and singer, whose praises the "Theatrical Inquisitor," which Belchambers edited, sang with no uncertain voice. Yet another theatrical historian and editor swells the list of poets—Francis Godolphin Waldron, actor and bookseller, to whom the world is indebted for one of the worst edited books that ever issued from the press, the 1789 edition of the "Roscius Anglicanus." George Brewer, the author of "Bannian Day," and other plays; Isaac Brandon, whose opera of "Kais" had been a great success in 1808; and Horatio Smith himself, whose motto was "Ad vos venio," were also competitors. It has recently been suggested that Charles Lamb sent in an Address; but there is nothing among the papers to support this idea, and I know no means by which "Elia" could have recovered his manuscript. It is otherwise with Whitbread, the chairman of the Drury Lane Committee, whom Sheridan declared to have been one of the competitors, for he could easily have destroyed his effusion. But I doubt if Sheridan's statement about Whitbread and his "Phoenix" was anything more than a flight of humor.

William (or rather "Bill") Linley, Sheridan's brother-in-law, who sent in an Address with the motto, "S. N. D. H.," was a well-known man about town, whose literary efforts were invariably unfortunate. He published a novel which was the standing jest of his intimates, and he wrote several operas which were the direst failures. To one of these unfortunate productions Sheridan contributed some dia-

logue which helped in its condemnation, and, when remonstrated with, is said to have replied: "Bill Linley has a good situation in the Company's service—why does he not go back to India? If his d—d farce had succeeded, we should have had him here for the rest of his life, scratching his head in a garret, or twiddling his thumbs in the greenroom, instead of saving rupees enough to come back and loll in his carriage." "Bill" had evidently a strong desire to propitiate the Committee, for he exalts their management to the skies, indulging in such lines as these:—

"No longer, now, shall would-be Garricks feel
The Morning tortures of a cooling Heel;
Catch longing peeps at the bright Kendal
coals,
The Urn hot smoking and the buttered Rolls."

"The Morning tortures of a cooling Heel" is good!

Other two of Sheridan's relations were among the competitors—Charles Brinsley Sheridan, his son, and Alicia Lefanu, his sister. The former seems to have been a little shamefaced at the rejection of his poem, and to have taken measures to secure the manuscript, for it is not among the number of those preserved. But Mrs. Lefanu had no such feeling, and published her Address, with her name attached. Other competitors whose productions were publicly acknowledged were Horace Twiss, W. T. Fitzgerald, John Taylor, proprietor of the "Sun" newspaper, and Doctor Busby, the translator and reciter of Lucretius, a fussy, self-advertising busy-body, who forced himself into great prominence in connection with this business.

Most of those whose names have been mentioned sent in poetical productions which were capable of being spoken without exciting special ridicule, and the endorsement put upon their manuscripts by the member of Committee who acted as Reader is generally nothing more than "Read." The patience of the Reader must have been exemplary. But even he is occasionally unable to maintain equanimity. Thus, when William Burton's Address came before him, and he saw the nature of the painter and glazier's production, he noted: "A prose Address in so bad a hand I have not attempted to read it." Very exasperating, too, must the competitors have been who sent amended

copies of their efforts ; such as the gentleman who sent " A third and last Copy, with the Writer's Apology." But only once or twice does the patient Reader express a strong opinion, as in the case of Thomas Adams, of 118 Cheapside, whose manuscript is endorsed, " This one is very unfit indeed." And truly he is right, for a more grotesque production it is hard to imagine. It commences with a stage direction—" *Applauses* ;" then the speaker begins :—

" What sounds, what joys, now greet my pensive ears,
Calls to past memory some grateful tears."

After " pensive ears" we are prepared for almost anything, and we are scarcely surprised to find Melpomene treated as a trisyllable in the lines :—

" Then Melpomene, arouse from dormant fate,
And pride thy pow'rs with Drury's wondrous state,"—

whatever that may mean. But Mr. Adams's finest lines are these :—

" Of wonders in the world there's seven straight,
May Drury's fame renown'd yet form the eight.
That England may with pride her name resound,
Therein record'd one Wonder more be found,
WELLINGTON and VICT'RY in course of time,
Will make thyself Great England Number Nine."

" Very unfit indeed !" But there were other geniuses who ran Mr. Adams very close, and one of them earned the endorsement, " Read—this one is very unfit." This was Samuel Grigg, who, by the way, did not pay postage on his packet. His lucubration began :—

" Lo in Majestic Pride behold sublimely rise !
Erst like the plum'd Phoenix, or in her flames she dies :"

which will serve as sufficient specimen of Mr. Grigg's poetry. Even more remarkable is a production, apparently seriously meant, which begins thus :—

" *Some Poems writting by* THOMAS NEVILLE *on the*
Abilities of WILLIAM SHAKESPEARE.

" When Shakspeare rained in this our Native shore,
fame stamp his vairs as in the Days off yore."

But the greatest humorist who competed was Mr. J. Wade, whose poem contains such lines as :—

" When the great Architect divine display'd
The Golden Compasses, and Heav'n array'd,
In brighter smiles diffus'd her radiant grace,
And fair Olympia shew'd her beauteous face.

* * * * *
Music in solemn silence awful hung,
Ecstatic blisses spread—as yet unsung !"

Shortly after this sublime beginning, Mr. Wade has some passages which might almost have done duty in a Restoration Prologue, but he has the grace to append a note to the doubtful lines : " *N.B.*—I insert these with inverted commas, to show that they may be omitted (or spoken) in the Representation. Tho', by the bye, Shakspeare himself has sometimes broader Phrases !" It might be supposed that, as a flight of humor, this last sentence could not be exceeded ; but in the letters which he addressed to the Committee, Mr. Wade approached, if he did not surpass, even this height. To Charles Ward, secretary to the theatre, he wrote—

" MOST WORTHY SIR,—Conformable to your very laudable Advert^l, I inclose the New Address. Trusting in your accustomed, Impartial, and very Gentlemanlike manner, you will be pleased to lay it before the Gentlemen of the Committee for Impartial Investigation. Should I or should I not prove the successful Candidate, it shall in nowise lessen the unalterable Gratitude, Well-wishing, and Esteem I shall ever bear—Y^{rs}. sincerely ever,
J. WADE."

To Mr. Whitbread, the chairman of the Committee, he sends another copy of his Address, with a letter which begins : " Hon. Sir—The Enclosed Address is submitted for your graphic and superior Opinion ;" and in both letters he quotes the first two and the last two lines of his poem, in order that no impostor might successfully claim the authorship of this work of genius. The last two lines he gives thus :—

" Y^r favours still to merit, constant found,
Now dries it*—as y^r plaudits warm go round !"

Having submitted their productions to the Committee, the anxious poets were forced to await the opening of the theatre to know their fate. As it was promised that the sealed letters of the unsuccessful competitors should not be opened, it was impossible that the rejected Addresses should be returned to their authors ; and in the advertisements of the opening of the theatre no information whatever was

* " Alluding to the Tear."

given about the selected composition, the announcement being simply, "An Occasional Address, to be spoken by Mr. Elliston."

At last the fateful 10th of October, 1812, arrived. Hours before the time appointed for the opening of the theatre, huge crowds blocked every street, keeping the whole neighborhood in a state of tumult; and when, at a quarter past five o'clock, the doors were opened, such a rush took place that it was a matter for congratulation that no lives were lost. Among this excited mob there were, we may be sure, a hundred anxious souls to whom not the play, but the prologue, was "the thing." A few of the poetic competitors may have booked seats, and gone in state to the boxes, but the vast majority, no doubt, mingled in the struggle at the door of the pit, and fought their desperate way into the theatre, there to pass an hour of weary waiting for the verdict. The audience amuses itself by recognizing the notable persons in the boxes; but the anxious poets have no thoughts for mere celebrities, and even the appearance of Mrs. Garrick, in the box which is hers by right of her famous husband's bequest, scarcely moves them. But it is otherwise with the great body of the public, and the venerable lady, bearing her burden of ninety years with wondrous grace, is hailed with three thunderous acclamations, which move her to tears, and no doubt recall the happy days when her "Davy" won similar honors from a generation passed away.

But the curtain rises, and the whole body of performers is discovered on the stage. "God save the King" is sung; then "Rule Britannia" is shouted by three thousand voices; and then—Mr. Elliston appears (in the dress of Hamlet!), and the hearts of the competitors stand still! Who shall picture the sickening anxiety of each poet! the agonized hope that the first words uttered may be familiar words! the awful disappointment when the orator begins the lines, strange to their ears:—

"In one dread night our city saw, and sigh'd,
Bow'd to the dust the Drama's tower of pride;
In one short hour beheld the blazing fane,
Apollo sink, and Shakespeare cease to reign!"

Mr. Elliston concludes—

"Still may we please, long—long may you preside!"

and retires amid "universal applause," while an eager buzz runs through the theatre, of criticism on the Address, and speculation as to the author. The most persistent rumor is that Lord Byron has entered into the competition, and that the lines just spoken are his. But there are many doubters. The "Times" critic thinks that, if this is the best Address submitted to the Committee, the rest must be appallingly bad. He won't believe that Lord Byron is the writer; and declares that "the Address is throughout of the lowest order for taste, conception, and knowledge of poetic language." But the rumor gains ground, and in a day or two the truth leaks out that the chosen poem was not one of those sent in for competition, but one furnished by Lord Byron at the express request of the Committee. At this outrage the poetic wrath boiled over, and one furious competitor determined to give public expression to the rage that filled his soul.

It was the evening of Wednesday, the 14th of October. The comedy of the "Hypocrite" had just been acted, and Mr. Holland came forward to give out the next night's play. But he found the attention of the audience engaged by an orator in the pit, and his announcement attracted no notice. The orator, having given his audience to understand that he was one of the aggrieved sons of Apollo, was encouraged to mount the stage and give his grievance full utterance. He accordingly scrambled on the stage, and bowed profoundly to the audience. He was about to speak, when Raymond, the stage-manager, entered from behind, and taking up a position near the injured poet, bowed with equal solemnity to the intelligent public. For some time both stood respectfully bowing, then both tried at the same moment to address the audience, and the audience, unable to hear either, impartially hissed both. The contending orators then turned to each other, and with deepest reverences inaugurated a conference. But this had no result, and both again attempted to gain the public ear. The tumult recommenced, and after some time Raymond gave way, remarking that, "if it was the wish of the house to hear that gentleman, he would give place to him." The poet, left in possession of the field, once more struggled to make himself heard, but the simmering excite-

ment of the house could not be reduced to silence ; and although the speaker, by impassioned gestures, made it evident that he was communicating something of importance, not a syllable could be heard. Ultimately the management, tired of seeing the theatre turned into a bear-garden, sent on two police officers, who carried off the unfortunate poet, amid a tumult which continued until Raymond again appeared. He was hailed with shouts of—"Explanation !" "Bring forward the man !" "Why did you seize him ?" and on replying that "An unknown person had attempted to disturb the entertainment," was loudly informed that the offender was not an unknown person, but that he was Mr. George Frederick Busby, one of the competing poets. Raymond at last succeeded in bringing the audience to reason, and the farce of the "Beehive," which was the last piece, was played without further trouble.

Mr. George Frederick Busby had indeed sent in an Address, but it was unjust to him to suppose that personal vanity had dictated his heroic course. His motive was a much higher one—filial duty. His father's, not his own, were the burning lines which he had been trying to recite ; his father's wrongs had nerved him for the attempt, which had so far resulted in disaster. But their failure did not dishearten the heroic pair, and next night they returned to the charge with plans better laid. Dr. Busby addressed a circular to his friends, intimating his intention of making a demonstration at the theatre that evening, and requesting their presence and support. A crowded house accordingly assembled, and as soon as the curtain fell on the last act of the "Rivals," all eyes were turned to the third tier of the boxes, where sat the Doctor in state. He solemnly uprose, and, after a few minutes of tumult, made himself heard. "I am Doctor Busby," he shouted, "a lover, a member of the drama, and a friend to the theatre (*cheers and hisses*). Ladies and gentlemen, it is well known that for several weeks the Committee appointed to manage the concerns of this theatre have, by public advertisement, courted the exertions of the literary world to prepare an Address to be spoken at the opening of this truly magnificent structure. This was on their part noble and praiseworthy ; but it must be allowed

on all hands that, however right they have been in intention, they have most lamentably erred in judgment."

Here the noise and tumult were so overpowering that the Doctor was unable to proceed for some minutes ; but he ultimately went on to say that he believed over a hundred persons had *condescended* to furnish Addresses, and that he for one thought more highly of the poetical talents of the competitors than to believe that none of them had written a better Address than Lord Byron's. Among the Addresses sent in were some that were very fine. He himself knew of four or five—a statement which was received with shouts of "Your own and your son's were among them !" At this point the orchestra broke in upon the orator's speech, and, although he made several attempts to resume operations, it was not until the termination of the farce that he was able to conclude. Then he presented himself, and said : "I have a strong, a powerful motive for requesting your attention. I am a friend to this theatre. I wish to open the way to superexcellence, to bring forward strong and powerful talent, instead of letting it sink into oblivion. Gentlemen, I am a friend to merit, and more especially to modest merit—my son is now in the house with an Address which I had prepared for the opening of this theatre, and nothing would be a greater pride and satisfaction to me than that he should be allowed by the managers to rehearse it on the stage, if you will give him leave." But at this point the Doctor was seized by two Bow Street officers, who, after a terrific struggle, dragged him out of his box, and carried him away toward the street. On the stairs, however, the Doctor squatted himself with vigorous adhesiveness, and defied the efforts of the officers to move him. Some of the audience interfered in his favor, and he was borne back in triumph to his box, from which he once more harangued the house. Considering himself now the champion of their rights, he said, and also as much a freeman as he was a conqueror, he would give them the opportunity of hearing such a Monologue as they had seldom heard. This modest statement being received with loud cheers, Mr. George Frederick Busby mounted the stage, and the audience became comparatively quiet.

But, most unhappily for the marvellous

Monologue, Mr. Busby, junior, was as weak of voice as his father was strong; and although the opening lines—

"When energizing objects men pursue,
What are the prodigies they cannot do,"—

were partially heard, all that followed was inaudible. A gentleman stood up in the boxes and said, "Mr. Busby, I would advise you to go home if you cannot make use of a stronger voice. You ought not to presume to get on that stage to detain the company, if you cannot speak so that we may distinctly hear; and I must tell you, that not a word of what you say can be understood here from the smallness of your voice, however elegant and large your ideas may be." But George Frederick was not to be put down in this summary fashion, and probably finished the Monologue; but excepting himself alone no one was any the wiser, and he had to retire, leaving the world unenlightened.

The newspapers next day gave great prominence to this disorderly scene, and Dr. Busby's conduct was the object of general rebuke. The most vigorous of his critics was "Bell's Weekly Messenger," which in its next issue delivered itself thus:—

"The Sitting Magistrates of Bow Street must lend their kind assistance to their brethren of the Committee. The incurable must be passed to Bedlam, and the malicious and turbulent to Clerkenwell. While Moscow is yet blazing, and the cotton-spinners out of work, it is really too much to be annoyed with the civil war of poetry."

But this elevation of Dr. Busby to the level of an industrial crisis and a deadly war was an isolated flight of imagination, and most of the papers attacked him with ridicule and banter. Into the strife one very powerful combatant plunged—Lord Byron, who revenged himself for the Doctor's criticism of his Address by a biting parody, which appeared in the "St. James's Chronicle" of 24th October. It was of course anonymous, but is now included in every edition of the poet's works. Its elaborate title, however, cannot be appreciated by any one who does not know the exact circumstances under which it was written; and those who have not heard of Dr. Busby and his weak-voiced son, will not understand the allusions in "A Parenthetical Address, by Dr. Plagiary, half stolen, with acknowledgments, to be spoken in an inar-

ticulate voice by Master —, at the opening of the next new theatre."

The failure of the Doctor's attempt probably prevented any other competitor from making a similar exhibition of himself, and the injured poets were no doubt making up their minds to bear their woes in silence, when another chance of publicity was offered to them. This came from a publisher in Bow Street, Covent Garden, who, struck by the success of the pretended "Rejected Addresses," conceived the project of publishing a collection of Addresses which had actually been submitted to the Committee, and really rejected. In answer to his advertisements, some fifty competitors sent in copies of their lucubrations, and the majority of these were published in a small octavo volume, entitled "The Genuine Rejected Addresses." I do not think that the publication was a success; indeed I incline to the theory that it was a deadly failure. For this belief I have two reasons: one, that the little book is now so rare that few copies of it can have got into circulation; and the other, that when a copy does turn up it is generally in the finest condition, and shows conclusively that it has been little read. If it was a failure, there can be no question that its fate was richly deserved; for a duller, more inane collection of commonplace doggerel could scarcely be conceived.

Of the writers who had been parodied in the "Rejected Addresses," two submitted serious productions to the Committee, and published them in this collection. W. T. Fitzgerald was one of these. This amiable man, and bad poet, was celebrated for the extreme loyalty of his effusions, and it was on this point that his parodists had fastened.

"Hail, glorious edifice, stupendous work!
God bless the Regent and the Duke of York!"

were the opening lines of the parody; but the genuine production did not work the loyal vein, and was simply a dull, ordinary sort of occasional address. The other poet who appears in both collections is our friend Dr. Busby, of whose surpassingly dull effusion the opening lines have already been quoted. Reading his genuine Address, we long for a touch either of the humor or the versification of the burlesque, from which I may be pardoned for quoting the delightful lines in which the

Atomic Theory of Lucretius, as well as the Doctor's translation of that author, is so happily parodied :—

"I sing how casual bricks, in airy climb,
Encountered casual cow-hair, casual lime ;

How rafters, borne through wondering clouds
elate,

Kiss'd in their slope blue elemental slate,
Clasp'd solid beams in chance-directed fury,
And gave to birth our renovated Drury."

—*Blackwood's Magazine.*

ON THE RISE AND DEVELOPMENT OF SYNTHETICAL CHEMISTRY.

BY PROFESSOR THORPE.

CHEMISTRY, as an art, dates back from the very dawn of civilization itself ; as a science it is barely a couple of centuries old. To the alchemists its pursuit was, in the main, but the pursuit of wealth. Now and again we find men among them like Thomas Aquinas, Basil Valentine, Libavius, and Glauber, who were impelled by a higher motive than the love of gold to seek for the hidden meaning of things, but the mystical tendencies of the Middle Ages were as scales to their eyes, and such devious groping for the light as they were able to make too frequently ended in utter darkness. Even in the therapeutic crudities of Paracelsus, who was sufficiently sincere in his profession as a thaumaturgist to affirm that magic was the culminating point of all human knowledge, what there was of science was summed up in the aphorism, which in fact passed as an axiom among his disciples : *Man is a chemical compound ; his ailments are due to some alteration in his composition, and can only be cured by the influence of other chemical compounds.* It may be questioned indeed whether modern therapeutics has advanced much beyond this position.

In strict truth, it is only within the present century that men have seriously set themselves to search for the causes and conditions of chemical change. Phlogistonism, it is true, had in it the semblance of a philosophical doctrine, but it was founded on an utterly false basis, and ultimately fell and was crushed by the weight of its own absurdities. The recognition of the real nature of combustion, itself a manifestation of chemical union, paved the way toward a clearer conception of the essential nature of chemical combination ; and this conception acquired a beauty, order, and harmony until then unknown to chemical teaching by the application of the atomic hypothesis as an explanation of the fundamental facts of chemical affinity.

Indeed, it has become a truism to say that this conception, the fruit of patient and sustained induction, is to chemistry what the theory of universal gravitation is to astronomy. For the first time in its history chemistry was illumined and vivified by a single, consistent theory, founded on quantitative relations, and making use of definite mathematical expression ; and it was at length recognized that the science must ultimately be referred to mathematical laws similar to those which had been established in regard to the mechanical properties of matter.

It in nowise detracts from the merit of Dalton to affirm that the atomic theory was a product of the age. It is certain that even if the simple, unassuming Cumberland Quaker had never lived, or that, if the boarding-school at Kendal, "where youth was carefully instructed in English, Latin, Greek, and French ; also writing, arithmetic, merchants' accounts, and the mathematics," for the modest sum of ten-and-sixpence per quarter, had absorbed the whole of his intellectual energies, we should still have had the atomic theory. Thomas Thomson, who stood sponsor to the infant doctrine, always maintained that in the absence of Dalton, Wollaston would have been its discoverer. A younger, bolder, and more vigorous intellect than Wollaston's was also on its track, and Sweden had well-nigh secured the glory which indisputably belongs to Britain. Jöns Jakob Berzelius had clearly grasped the real significance of Richter's labors, and, before he had even heard of Dalton's theory, had dedicated his life to the determination of the stoichiometric relations on which the atomic doctrine ultimately depends. His keen mental vision saw proofs of its validity where Dalton failed to find them. He was aware also of its limitations ; like Wollaston, he perceived that the mutual action of atoms re-

quires a geometrical conception of their relative arrangement in all the three dimensions of solid extension.

Whatever may be the ultimate fate of the theory which found deliberate expression in the *New System of Chemical Philosophy*—and no one can say that it is not destined to give place to a higher and even nobler generalization, which shall more clearly connect matter with the forces associated with it—it is certain that the ages to come will ever reckon it as the central, dominant conception which has actuated the chemistry of the nineteenth century. The characteristic feature of the chemistry of our time is, in a word, the development and elaboration of Dalton's doctrine; for every great advance in chemical knowledge during the last ninety years finds its interpretation in his theory.

The discovery by Gay-Lussac in 1808, that the weights of equal volumes of both simple and compound gases, when measured under like conditions of temperature and pressure, are either proportional to or are simple multiples of their empirical combining weights; and the explanation of this fact, given by Avogadro in 1811, by the assumption that all gases, when measured under comparable conditions, contain the same number of particles, as indicated by the similarity in behavior of all truly gaseous substances under the influence of temperature and pressure, were the first striking proofs of the validity, if not the sufficiency, of Dalton's fundamental conception. Then followed the discovery of Dulong and Petit, in 1819, that the capacity for heat of the elements is inversely proportional to their atomic weights, which finds its simplest expression in the general law that the atoms of elementary substances have the same capacity for heat; and almost simultaneously, the discovery by Mitscherlich that an equal number of atoms similarly combined produces similarity of crystalline form; similarity of crystalline form being independent of the chemical nature of the atoms, and only determined by their number and arrangement. The recognition, about 1823, of the existence of Isomerism, that is, of the fact that the same elements may combine together in the same proportion and yet give rise to totally distinct compounds; Faraday's discovery in 1833, "that the equivalent weights of bodies are simply those quantities of them

which contain equal quantities of electricity," or, in other words, that the atoms of bodies have equal quantities of electricity naturally associated with them; the detection by Kopp and Schröder in Germany, and by Playfair and Joule in this country, of the relations between mass and volume in solids and liquids; these constitute so many proofs of the soundness and comprehensiveness of the hypothesis. It does not weaken the argument that these generalizations were not invariably accepted by the leaders of chemical opinion at the time they were promulgated. Dalton himself, for example, was unable to recognize the great support his doctrine derived from the discovery of the law of volumes by Gay-Lussac. Berzelius long failed to appreciate the significance of the discovery of Dulong and Petit, and although he was eventually driven to recognize the occurrence of isomerism—he, indeed, coined that very word—in the outset he stoutly maintained that the idea involved a contradiction in terms. It is true that a fuller knowledge has shown that each of these generalizations has its limitations: that all are, so to say, only first approximations to exact mathematical statement; but this circumstance has in no wise diminished the support they afford to the doctrine of Dalton, for, as Liebig has well stated, "one of the most cogent arguments for the soundness of our views respecting the existence of atoms is, that these deviations are explicable upon certain considerations attaching to the atomic theory."

Corpuscular theories are now altogether banished from certain domains of physics. Indeed, the most weighty of the attacks yet made on the atomic hypothesis have been delivered by those who are mainly occupied with the problems and abstract conceptions of energy. It is significant that Faraday, who began his scientific career as a chemist, seems to have gradually loosened his hold on the atomic theory as he became more and more absorbed in the contemplation of purely physical phenomena. On the other hand, the belief in the existence of atoms has been enormously strengthened by a profounder study of the laws which affect the thermal relations of gases and their behavior under pressure: the very fact that these laws are not capable of the strict mathematical expression originally given to them, finds

its fullest explanation in the atomic theory ; the deviations follow, indeed, as a necessary consequence of the theory, thereby affording an additional proof of the truth of Liebig's remark.

But the chemist who concerns himself mainly with considerations drawn from his own science sees in the past course and present tendency of organic chemistry the strongest proofs of the influence and value of Dalton's doctrine. All the fundamental conceptions of organic chemistry are essentially atomic. The significance of isomerism has already been referred to ; it is in the domain of organic chemistry that isomerism finds its most numerous and most striking examples. As far back as 1823 Gay-Lussac and Liebig clearly recognized the existence of isomerism, and also the fact that it must ultimately depend on differences in the mode in which the atoms of the constituent elements are combined. The discovery of the identity in qualitative and quantitative composition of silver fulminate and silver cyanate, by these chemists, was in reality one of the most momentous discoveries of the century. It was followed in quick succession by Faraday's discovery of a liquid hydrocarbon in oil gas, having the same percentage composition as the well-known olefiant gas : by Wöhler's epoch-making transformation of ammonium cyanate into urea—bodies made up of the same elements united in the same proportion, and yet possessing wholly dissimilar properties ; and, lastly, by Berzelius's discovery that racemic acid and tartaric acid are identical in composition. These facts profoundly influenced chemical thought, by demonstrating that the attributes of bodies depend not merely on the nature and number of their components, but also on the mode in which these components are arranged and distributed. Chemists, for the first time, clearly recognized that their business was not only to determine the quality and quantity of the various atoms in a compound, but also the manner in which those atoms are grouped and held together. This, indeed, is the great problem of modern chemistry, and each successive theory of the last half century may be valued in proportion as it has ministered to this end. The idea of atomic grouping lay at the basis of the doctrine of radicals, by means of which the chemists of sixty years ago sought to make evi-

dent that organic compounds are fundamentally similar to inorganic substances. It lay, too, at the basis of the unitary views which, with the discovery of the principle of substitution by Dumas, began to gain ground in organic chemistry. The fact of substitution, indeed, is as inexplicable as the law of multiple proportions, except upon the atomic hypothesis. The nucleus theory of Laurent, and the different type theories of the French school, and of their successors in England, all tacitly recognized the existence of atoms.

The limits of this paper preclude the possibility of the attempt to show how these various theories have given place to more rational modes of viewing the structure of organic compounds. Unquestionably the two most powerful factors in determining the present character of organic chemistry have been, firstly, the recognition by Frankland in 1852 of the fact that the atom of every element is inherently endowed with a specific combining power varying within certain limits, whereby it is able to unite with a definite number of atoms of other elements ; and secondly the hypotheses of Kekulé and Couper, which graft themselves directly on Frankland's discovery, concerning certain peculiarities in the mode of combination of the element carbon, the organic element *par excellence*. Although nothing is known as to the real cause of valency, that is to say, of the cause which enables the atom of carbon to take to itself and hold in stable union four atoms of hydrogen or of chlorine, and no more than four, and which forbids the atom of hydrogen or of chlorine to do the same thing as regards carbon, it will be obvious that the fundamental idea of valency is essentially atomic in conception.

From this time the attempts of chemists to unravel the internal structure or *constitution*, to use the term first introduced by Butlerow, of organic compounds took a new departure. Great numbers of compounds hitherto unknown and undreamed of were prepared because theory indicated their existence. The mode of genesis and the nature of the transformations of these bodies threw fresh light on the manner of the grouping of the atoms in bodies already known ; and the knowledge thus gained enabled chemists to conceive of methods by which such bodies might be synthetically prepared. Indeed, it may

be safely asserted that whenever the constitution of an organic substance is clearly made out, the synthetical formation of that body comes within the sphere of practical chemistry.

It may not be uninteresting in this connection to take a survey of the progress which has been made in synthetical chemistry during the last fifty or sixty years.

Such a survey, however rapid, will take us into every department of the organic world. During the past half-century the chemist has succeeded in forming the active principles or characteristic products of many plants; he has built up substances which have hitherto been regarded as made only by the very process of living of an animal; and he has formed substances which were thought to be produced only by changes in organized matter after death.

That particular day in 1828, when Wöhler first observed the transformation of ammonium cyanate into urea, should be accounted a red-letter day in the history of science. This discovery virtually gave the death-blow to the notion that the operations which are concerned in the formation of the chemical products of the organic world are fundamentally different from those which take place in the inorganic world. Urea, as the final product of a series of tissue changes, is pre-eminently a typical product of animal life: no more characteristic example of a substance formed by the action of the so-called *vital force* could possibly be adduced. By demonstrating that urea can be made synthetically by ordinary laboratory processes and from substances inorganic in their origin, Wöhler proved that *vital force* is only another name for chemical action; and that an animal is nothing but a laboratory in which a multitude of chemical changes, similar to those which occur in our test-tubes and controlled by essentially the same conditions, is continually taking place.

Since the date of Wöhler's discovery urea has been synthetically prepared by many reactions. Thus it was obtained by Natanson by the action of ammonia on carbonyl chloride, and by Basarow by heating commercial carbonate of ammonia; its formation in this case is due to the circumstance that ordinary carbonate of ammonia, or "smelling salts," always contains a greater or less quantity of ammo-

nium carbamate, which on heating is resolved into urea and water. These reactions have a special interest from the circumstance that all the substances taking part in them can be formed directly or indirectly from their ultimate elements.

Associated with urea as a product of the oxidation of the nitrogenous compounds in the organism are *uric acid*, *xanthine* and *sarcine*. These bodies are met with in greater or less quantity in urine, and in certain forms of urinary calculi; and they are invariably present in blood and muscle juice. In chemical composition they differ from each other simply in the amount of oxygen they contain. Urea was first artificially transformed into uric acid by Horbaczewski. Its synthesis has also been effected by Behrend and Roosen by methods which afford evidence of the validity of the view of its constitution originally propounded by Medicus.

Closely related in chemical composition to these bodies are *theo-bromine* and *caffeine*, the active principles respectively of cocoa (the fruit of *Theobroma cacao*) and of coffee and tea.* Caffeine, indeed, is contained in a large number of vegetable products, infusions of which are used as beverages in various parts of the world. Thus, in addition to tea and coffee, it is found in maté, or Paraguay tea (the leaves of *Ilex paraguayensis*); in "guarana," the dried paste prepared from the seeds of *Paullinia sorbilis*, growing in South America; and also in the kola-nut, which is used as an article of food in Central Africa. This widespread use of caffeine-containing products is undoubtedly of great physiological import, and its interest is enhanced by the intimate relationship which is now shown to exist between caffeine and the products derived from the oxidation of nitrogenous matters within the organism. Xanthine, indeed, has been recently transformed into theobromine by Emil Fischer by a method which is identical in principle with that used in 1860 by Strecker to effect the conversion of theobromine into caffeine. These

* It has been surmised, from the results of physiological experiments, that caffeine, the characteristic principle of coffee, differs from theine, the active principle of tea. Recent observations by Professor Dunstan have, however, conclusively demonstrated the identity of the two substances.

bodies are closely related to *guanine*, a substance contained, as its name implies, in guano. Guanine, in fact, was transformed into xanthine by Strecker. Hence the active principle of tea and coffee could be obtained from guano, or if some method of transforming uric acid into xanthine could be devised—this transformation was at one time supposed to have been effected—caffeine could be synthetically made through the intervention of urea and uric acid from inorganic materials. The following scheme shows the successive steps of the synthesis:—

1. Carbon and oxygen give carbonic oxide.—*Priestley*; *Cruikshank*.
2. Carbonic oxide and chlorine give carbonyl chloride.—*J. Davy*.
3. Carbonyl chloride and ammonia give urea.—*Natanson*.
4. Urea gives uric acid.—*Horbaczewski*, *Behrend* and *Roosen*.
5. Uric acid to be transformed into xanthine.
6. Xanthine yields theobromine.—*Strecker*.
7. Theobromine gives caffeine.—*Fischer*.

Of late years much attention has been paid to the study of the putrefaction of albuminous substances of animal origin with the result that a considerable number of basic nitrogenous bodies, some of which are highly poisonous, have been isolated. These compounds were classed by the Italian toxicologist Selmi under the generic name of the *ptomaines* (πτῶμα, a corpse). They are the products of the vitality of the micro-organisms which are concerned in setting up the putrefactive change. Their discovery has greatly modified our views as to the mode of action of pathogenic organisms, and it is now regarded as not improbable that the disturbances are due rather to the poisonous products elaborated by the organism than to the mere presence of the organisms themselves. It ought to be stated, however, that the attempts hitherto made to isolate the toxic substances which may be formed by the growth of pathogenic organisms have been attended with only partial success. Thus Nencki was unable to detect any toxic substance among the products of anthrax, and *Staphylococcus aureus*, a common organism in abscesses, yields only a non-poisonous base. On the other hand, Brieger, to whom we owe the

detection of a large number of these so-called cadaveric alkaloids, has found that the typhoid bacillus yields a poisonous substance which he has named *typhotoxine*; and he has also discovered that the bacillus of tetanus forms a base, now called *tetanine*, which gives rise to symptoms which have a strong resemblance to those occasioned by the inoculation of the bacilli. All the ptomaines hitherto isolated are comparatively simple in composition and not very complex in chemical constitution. Some of them have been shown to be identical with bodies already known. Thus *choline* (χολή, bile), a non-poisonous alkaloid, originally found by Strecker in bile, in the brain, and in yolk of egg, and now known to be a product of the putrefaction of meat or fish, has been synthesized by Wurtz; while *neurine* (νεῦρον, nerve), a derivative of brain substance, originally confounded with choline, but differing from it in composition and in possessing intense poisonous properties, has been artificially produced by Baeyer and by Hofmann. Choline and neurine are closely related substances and can be readily transformed into each other. Another of the so-called corpse alkaloids, *cadaverine*, has also been synthetically formed by Ladenburg.

In 1870 Schmiedeberg and Koppe isolated the poisonous principle of the fungus *Agaricus muscarius*, which they named *muscarine*. Subsequently, Schmiedeberg and Harnack obtained muscarine by the oxidation of choline, which indeed accompanies it in many fungi, and from which it differs only in containing an additional atom of oxygen. It is noteworthy that muscarine also occurs with choline among the products of the putrefaction of flesh.

It is, however, among the products of plant life that some of the most notable syntheses of modern times have been effected. *Tartaric acid*, the characteristic acid of unripe grapes, and *citric acid*, the acid which gives sourness to limes, lemons, and oranges, have each been artificially prepared. The synthesis of tartaric acid may now be effected from its elements by a comparatively simple series of steps. The first step involves the artificial formation of ordinary *alcohol*. This was effected by Berthelot in the following way. When carbon is intensely heated in a stream of hydrogen gas a poisonous gas-

ous hydrocarbon termed *acetylene* is produced, which is characterized by giving a red powder with certain compounds of copper. Indeed, by means of this reaction the presence of acetylene in ordinary coal-gas and as a product of the imperfect combustion of many illuminating flames may be recognized. This compound of copper and acetylene, under the influence of reducing reagents, may be made to yield ethylene, or olefiant gas; this gas, as Faraday showed, is soluble in strong oil of vitriol with the formation of ethyl sulphuric acid, a substance which only requires distillation with water to convert it into ethyl (*i.e.* ordinary) alcohol.

Ordinary alcohol, under the influence of oxidizing agents, gives rise to glyoxylic acid, from which, as recently shown by Genvesse, the optically inactive modification of tartaric acid, the racemic acid discovered by Berzelius, may be formed. Racemic acid, as demonstrated by Pasteur, is a mixture of two modifications of tartaric acid which neutralize each other's optical activity. By taking advantage of certain remarkable differences in the crystalline characters of the sodium-ammonium salts formed from racemic acid, which he was the first to detect, Pasteur succeeded in separating the two constituents of racemic acid and in showing that one of these is the particular variety which occurs in the grape and other fruits, and which constitutes the tartaric acid of commerce. Hence the racemic acid obtained from the oxidation product of alcohol only requires treatment by Pasteur's method to yield the tartaric acid of the grape.

Many attempts have been made at various times to effect the artificial formation of plant-alkaloids such as quinine, morphine, strychnine, etc., but as yet with only partial success. There is little doubt, however, that such syntheses will be accomplished when the constitution of these complex substances is better understood. Up to the present only two alkaloids have been synthesized—one completely, *viz.*, *conine*, the poisonous principle of hemlock (*Conium maculatum*), which has been made artificially by Ladenburg, and the other only partially, *viz.*, *atropine*, one of the active substances in *Atropa Belladonna*.

The history of the synthesis of *conine* has a special interest. The naturally oc-

curing *conine* obtained by Giesecke in 1827 has the power of turning the plane of polarized light to the right, while the *conine* first synthesized by Ladenburg was found to have no action on polarized light. Further research has shown that this *conine* stands to the naturally occurring alkaloid in the same relation that the artificially prepared racemic acid of Genvesse stands to the tartaric acid of fruits. By combining the artificial *conine* with tartaric acid, it is broken up into *lævo-conine* and into *dextro-conine*, the latter of which is identical with the natural variety.

Closely related to *conine* is *nicotine*, the poisonous constituent of tobacco. The constitution of this body is now fairly well understood, and its synthetical formation may be confidently looked for. Its parent substance is contained in coal-tar, and in the fetid liquid obtained by distilling bones.

A considerable number of the odoriferous principles of plants have been obtained artificially, such, for example, as *bitter-almond oil* and *oil of mustard*. Indeed, the synthetically prepared oil of mustard has largely replaced the natural product in medicine as a vesicant and counter-irritant. The sweet-smelling principle of *Spiræa ulmaria*, or meadow-sweet, is readily formed by heating a solution of carbolic acid in soda with chloroform. This substance may, as shown by Dr. Perkin, be readily transformed into *coumarin*, the crystalline odoriferous principle of the tonka bean and of woodruff. The *Maiweinessenz* used in Germany in place of woodruff in the manufacture of *Maiwein* is an alcoholic solution of artificially prepared coumarin.

Salicylic acid, which is now largely used as an antiseptic, could formerly only be obtained from oil of winter-green (*Gaultheria procumbens*). It is now prepared on a manufacturing scale by heating a compound of soda and carbolic acid in carbonic acid gas, and the synthetic product has now practically replaced the natural variety.

Vanillin, the aromatic principle of the dried fermented pods of certain orchids belonging to the genus *Vanilla* (Span. *vaynilla*, dim. of *vaina*, a pod), has had its constitution unravelled, with the result that it can now be synthetically prepared. Artificial vanillin is, in fact, made on an industrial scale in Germany, and threatens

to supplant the natural product of Réunion and Mauritius as a flavoring agent in chocolate and confectionery. It is interesting to note that vanillin is found to be chemically related to the odoriferous constituents of cloves and allspice, and can be prepared from these substances.

Other plant products, of which the synthetic formation may be confidently looked for, are *caoutchouc* and *oil of turpentine*; and, curiously enough, the one will be obtained through the other, and both, indirectly, from coal-tar.

The story of the artificial formation of *alizarin* from coal-tar derivatives by Graebe and Liebermann in 1868, and of its successful commercial manufacture by Perkin in this country, and by Caro in Germany, is too well known to be repeated here. The synthetic formation of alizarin created nothing less than a revolution in one of our leading industries, and completely destroyed a staple trade of France, Holland, Italy, and Turkey. Alizarin is one of the main products of the madder plant, the roots of which have been used from time immemorial for the sake of the dyes which they contain. Pliny tells us that in his time madder was well known "to the sordid and avaricious; and this because of the large profits obtained from it owing to its employment in dyeing wool and leather." Originally it was grown almost exclusively in India, Persia, and the Levant. The Moors introduced it into Spain, whence it found its way into the Netherlands. Alsace and Avignon were long celebrated for their madder. Twenty years ago it was the most important of the natural dye-stuffs used by the calico printer and Turkey-red dyer; and the annual import of it into this country was valued at £1,250,000 sterling, the South Lancashire district alone consuming upward of 150 tons weekly. The chemist has changed all this, and the cultivation of the various species of the *Rubiaceæ* for the purposes of the dyer, which has continued for thousands of years down to our own time, is now practically at an end, and the remnant of a primeval vegetation has displaced the vegetation of to-day.

The remarkable industrial results which followed Graebe's and Liebermann's discovery naturally roused chemists to attempt the artificial formation of a dye-

stuff not less important—viz., *indigo*. This has been accomplished, independently, by Baeyer, by Heumann, and by Heymann, but by methods which as yet do not allow the artificially formed indigo to compete successfully with the natural product. Now, however, that an insight into the chemical constitution of indigo has been gained, no one can say that its synthetic formation may not at any time become commercially successful.

No synthesis of recent years has created a keener or more widespread interest than that of the *sugars*, dextrose and levulose, which has been recently effected by Emil Fischer. It is interesting not merely as an instance of the artificial production of well-known substances, but also on account of the light it is calculated to throw upon the origin and mode of formation of the sugars in the vegetable kingdom. It is not possible, without entering into details too technical in character to be in place here, to trace the successive steps of the process by which this synthesis has been effected; but it may be interesting to note that it has been accomplished through the medium of *glycerin*, a proximate constituent of the fats, and itself capable of being formed from ordinary alcohol, which in its turn can be produced, as already stated, from its elements. Hence it is possible to indicate a method by which sugar can now be formed from its ultimate elements—that is, from inorganic sources.

The advance in every section of chemistry during this century, and especially during the latter half of it, has literally been by leaps and bounds. Although practically a creation of our own time, no branch has been more fruitful in result, in suggestion, or in possibility than that of organic synthesis. The mere gain in the knowledge of fact is immeasurable; it is even more impossible to gauge the profound effect of that knowledge on other departments of human effort and intellectual activity.

Past history shows only too well that there is a tide in the affairs of science, as in all other things that constitute affairs of men. There are periods of ebb and flow, of advance and retrogression. But of this we are certain—in chemistry the flood has only just set in, and it is still very far from high-water mark.—*Fortnightly Review*.

THE EVOLUTION OF GAMES AT BALL.

BY HORACE G. HUTCHINSON.

ONCE a prehistoric man, in sport or anger, threw a cocoa-nut at a prehistoric friend. This had occurred before. But the method of the assailed had in it something of novelty in his dealing with the missile. He did not move aside out of its path. He put out his hand to ward it off, and, behold, it stuck in his hand. His friend applauded the action. "By Jove," he said, "that's good!"—or its prehistoric equivalent. Then they had to invent a new word. They said that the assailed man had "caught" the missile. "Throw it back to me," said the first thrower. "Let me see if I can catch it." The hand of prehistoric man was prehensile—his liver was a splendid organ—his eye clear. Soon they learned to catch the cocoa-nut with dexterity, and exhibited their feats, with triumph, to other prehistoric men; and the little cherubs laughed, aloft, for they said, "Man has learned to play at ball."

On another day one of our ancestors chanced to have in his hand a stick, when a friend threw the sportive cocoa-nut. Skilfully he struck it with the stick. "Lucky for me," said a friend behind him, "that you struck that cocoa-nut, otherwise it would have hit me." "Quite so," said the striker; "let me try it again." But the other demurred, and proposed the substitution of a tree-trunk, as the object of attack, in place of his own person. And this was cricket.

Again, a cocoa-nut lay on the ground. "Give me that cocoa-nut if you do not want it," said a bystander to one who stood beside the cocoa-nut. The bystander with a blow of his stick knocked the cocoa-nut toward his friend—an uncourteous deed of gift, but prehistoric man was not always polished. But the cocoa-nut chanced to have been hit so skilfully that it lay at the feet of him who had desired it. "A good shot!" exclaimed the latter; "let me see if I can do it." So this was golf.

With the degeneration of man golf easily grew debased to the rough hockey. In a treeless plain there was a dearth of hockey-sticks. Ingenious man simply replaced the lack by kicking with his feet—foot-ball.

Once an early aboriginal threw a cocoa-nut against a high steep rock. A friend caught it and returned it—fives.

Now it would seem that all these complicated uses must have grown out of the first-named incident with the cocoa-nut—the simple catching. In that case we ought to be able to trace the evolution of games—to see how one passed on into the other. There should be a gradual growth, from the most simple to the most complex. There should be no link missing in the chain. Can we find these links, and where shall we go to look for them?

We notice, firstly, in considering the games of modern men, that they may be divided off upon quite different lines, dependent on the point of view and entailing a certain cross division. From one point of view we may divide games into those in which the stroke of one player is dependent on the action of the other, and those in which the stroke is entirely independent. Golf stands almost alone in the latter class. And even of golf it is not always true. The abhorred "stymie" violates the great principle, and leaves the opponent perplexed and furious because of the stroke of his antagonist. Billiards, from this view-point, is a link between golf and those games, such as tennis, in which the player's stroke is strictly dependent on the stroke of the previous striker. In billiards the player is dependent on the "leave" given him by his opponent, but in dealing with the "leave" he depends on none but himself.

Again, there is a possible classification of games according to the objects for which the contending parties strive. There are games in which it is the object of each to force a ball through a goal defended by the other. Such are hockey, *lacrosse*, and football. There are games in which it is the aim of one to hit a mark defended by the other. Such is cricket; and in the same category we may place base-ball, for though here there is no wicket, the "out" side scores "by error" if the striker fail to hit the ball on the third effort. There are games in which each strives for a similar object until his striving shall have tired out or otherwise de-

feated his opponent. Such are fives and lawn-tennis.

And of course the classes are endless into which games could be ranged according to the implements used in playing them. Enough has been said to suggest the wide and substantial differences. It remains to endeavor to trace the genealogy and to show features of "family likeness."

In any little town in the Basque country you may see lads in the streets playing with a ball in a manner which marks the first departure from the primitive game of catch. They are patting the ball from one to the other with the open hand, taking it either at the volley or on the first bound. So they go on, trying how long they can keep it up, but playing at no "game" strictly so called, for there is no winner or loser. There is a queer Basque outcry of scorn when one misses or makes a bad stroke, and then they start the ball off again. But this, though in itself no "game," is, nevertheless, practice for one of their most favorite games; and the Basques are great lovers of games of ball. They are practising for their game of *blaid*, which is essentially very similar to the English game of hand-fives. Go into Bayonne, at the edge of the Basque country, and there, on a Sunday afternoon, you will probably find them playing vigorously in the *tringuet* court, as they call it, at this game of *blaid*. Now this *tringuet*-court is precisely what we should call a tennis-court. More than that, it is the pattern, the original pattern, of our tennis-courts—the father, as one may say, of all the tennis-courts in the world. There you have the *dedans*, the grille, the pent-house, and the galleries. The chases are marked upon the wall; there is the *tambour*, with a drummer, in old-fashioned uniform, painted, life-size, upon it. One is tempted to ask, "Is this the reason that our buttress is always called the *tambour*? Does the name arise from the accident that some enterprising artist chanced to paint a drummer on this, the original of all our tennis-courts?" But the question discloses an ignorance of the terms of French architecture. Any buttress of like character is named in the French building nomenclature a *tambour*, though it may well be that the name suggested to the artist the decoration which he has painted on it.

In this court at Bayonne the pent-house

and all the galleries and openings are at a less height up the walls than in our tennis-courts. Also the court is somewhat longer; but in all main details our courts are a faithful copy. High up, toward the roof, the sides are open to the light and air of heaven, but the roof has projecting eaves which prevent the rain from often beating in, and nets stretched across the open spaces keep the ball from going out.

In this old historic court, then, you will find them hard at work playing *blaid*. The galleries will be thronged by spectators, who show an eager and applause interest in the game. Most of them have, probably, a wager on the result. But though it is the *tringuet*-court, the game is no longer *tringuet* (for a reason which shall be explained directly) but *blaid*. And this game of *blaid* is practically hand-fives played against the pent-house wall of a tennis court. There are certain differences of detail. Instead of a line against the wall, the lower edge of the pent-house roof above the *dedans* is taken as the mark above which all balls must be returned. A return is good if it strike the pent-house—it need not first strike on the wall above. But the service is not good unless it first strike the wall above the roof over the *dedans*, then strike the roof above the side-galleries, and so fall into court. And the method of delivering the service is curious; the server does not throw the ball against the wall, as in hand-fives; he bounces it upon the floor of the court, then strikes it with his hand as it rebounds, and in this manner delivers the service.

But that which fills the unaccustomed spectator with surprise and admiration is the extraordinary force with which this service and the subsequent returns are delivered. The ball used is about the size and weight of a tennis-ball, and the players strike this ball not only with all the strength of their hand and arm, but with the whole power of the body skilfully thrown in at the proper moment, so that the heavy ball beats on the pent-house and on the wall as if it had really been hit by a tennis-racquet, and one exclaims at each thundering hammer on the court, and at each ringing smack of the hand, "Surely these fellows' palms must be made of iron!" Often they will take the ball, as it flies back, on the volley, and sometimes get up a seemingly impossible return by a

boasted force which makes the court re-echo.

So this is *blaid*. Far back, in the long court, sits a marker recording and calling out each stroke as it is scored. They play the chases too, so that the scoring is not always easy, and the stroke which puts out the server counts to the score of the striker-out. But sometimes, far back as the marker sits, the ball will almost come to him, on the first bound, so extraordinary is the power with which good players can strike the ball from the bare palm.

Yet, after all, this is a *tringuet*-court; but *tringuet* has not been played in it, so far as one can learn, since 1889. To understand the reason it will be necessary to understand something of the nature of the game of *tringuet*, especially of the weapon with which the game is played; and this is very germane to our purpose, for we are now considering the relationships of different games of ball from the point of view of the weapons used in them. At present we are only bare-handed; for though we may play hand-fives with a glove, the glove is rather in the nature of a protection than of a direct help to hitting the ball. But though a glove is used in the game of *tringuet*, it is of a very different kind from that which the schoolboy uses to protect his hands at fives, and meets a different purpose. The glove, indeed, is little more than a means of attaching to the hand the real hitting weapon. This weapon is in the form of a piece of very stiff leather some foot and a half in length, and some six or eight inches in breadth, slightly curved, so as to follow the line of the open hand. The ball used at *tringuet* is similar to that in use for *blaid*, and the game is in all essentials similar to tennis. In the game of *blaid* played in the *tringuet*-court, the net was removed to give the players more room, but for *tringuet* a net like a tennis-net is employed.

Now the primary object of this stiff, slightly concave piece of leather was that it should serve for hitting the ball—pure clean hitting. But the skill of the players introduced a refinement in the stroke. It was found that the severest return could be delivered by receiving the ball on the part of the leather covering the palm, by then allowing the ball to run down the scoop of the leather, and by returning it when it had reached the extremity. Ob-

viously such a return could be delivered with great leverage. But—and here the cause of the trouble which has led to the abandonment of the game becomes apparent—the rules of the game do not allow that the ball shall be *caught*. It must not be *held*, for a moment's space, in the scoop of the leather. It may be received, and allowed to run down, but not for an instant may it be permitted to lie motionless. It is at once apparent what a door is thus opened for acrimonious discussion. And since the Basques are an eager and impetuous race, and, moreover, are in the habit of laying comparatively large wagers on the results of the game, it was only a natural consequence that disputes should constantly arise as to whether the ball had been held, or fairly delivered. These disputes grew so keen and so frequent that they have led to the game being given up, and, as we said before, there has not since 1889 been a single game of *tringuet* in the Bayonne court.

The evolution of the weapon used in *tringuet* is easily conjectured. A man finding his palm injured by the severity of the stroke at *blaid* attached to his glove a hard piece of leather as a protection. It was found that added length of leather gave added leverage and added power to the return, and finally the implement assumed the shape in which we see it to-day.

There is in use among the Basques a sort of basket, often circular, but often, also, narrowly oblong, in shape, in which women, generally, and also men, carry small burdens—as of fish—on their heads. These baskets, it may fairly be conjectured, suggested to the Basques, and to their Spanish neighbors across the Pyrenees, the game of *pelotè*—the “long game” or the “basket game,” as it is also commonly called. Or it may be that some innovator suggested the use of basket-work instead of the stiff leather used in *tringuet*. Be that as it may, the basket game is played with a long curved thing of wicker attached to the glove in the same manner of attachment as the leather. The basket is not unlike the wicker protection which in England is fitted over the wheel of a dogcart to keep a lady's dress from contact with the mud on the tire. This *pelotè* is quite a different game from *tringuet*. It is played in the open air. There is a front wall on to which the ball has to

be served and returned, but there are no side walls. The court is often a hundred and fifty yards or so in length, and its lines are marked as are the touch-lines of a football-ground. The server serves the ball as in *blaid*, bouncing it on a slab of marble, which can be set at the angle most agreeable to the server, and striking it with his bare hand against the wall. It is received, either on the volley or the first bound, by one of the striking-out side in his basket, and returned against the wall. By this time the server will have resumed his glove—his basket—and is ready to take his part in the game. Four or five a-side are common numbers, and villages compete with such keenness against one another that it is usual for each village to have one man who has been trained from childhood in the art of serving. Large sums are bet upon the games, and if a stranger desire to get up a match between the best players of the French and Spanish Basques he will probably have to offer as an inducement no less a sum than £15 or £20. There is no line on the wall, above which the ball must strike, but they have a system of chases. The ball is sent swiftly along the ground from the wall toward the chase-mark, and if the side defending the chase can field it before it reaches the mark the chase is off; if the defending side fail, the chase is won.

The skill with which they receive the ball in these baskets, and the power with which they can deliver it out of them, are equally remarkable; but the interesting difference between this game and *tringuet* is, that whereas in the latter they are not allowed, as we saw, to catch and hold the ball, in *pelotè* they are allowed to hold it in their baskets. But again, in *pelotè* no more than in *tringuet*, are they allowed to run with the ball thus held. In both cases they must deliver it from the spot, approximately, where they received it. To trace a further evolution, and to see a game in which it is permitted to hold the ball in the receiving weapon, and to run with it, we must go to a far-removed part of the world. We must go and see *lacrosse* played by the Indians and the Canadians.

When we see the game of *lacrosse* and the implement with which it is played, and when, further, we see the manner in which the frozen-out *lacrosse*-players, in winter, scud over the snow, it is not very

difficult to hazard a very shrewd guess that the implement used in the game is a modification of the snow-shoe. Indeed the game might very well be played with a snow-shoe. The improved snow-shoe, as adapted to the game of *lacrosse*, consists of a stick nearly as long as a golf-club, bending round, less abruptly than a shepherd's crook, at one end. From the extremity of the bend to a point three parts of the way toward the handle of the stick a cord is stretched; and between this cord and the bay, so to call it, formed by the curved stick, a net is stretched, but not stretched so tightly but that the ball can be caught and held in it. Thus it serves the purpose of the basket used in the *pelotè* game. The ball is caught, held, and returned with a peculiar double-handed swing, and from these *lacrosse*-racquets it can be thrown to a great distance. But this is not all. In *lacrosse* it is not only permitted, but it is an integral part of the game to run with the ball, held in the implement, until it is knocked out, or threatened to be knocked out, by the interference of another player. For here again is a new feature. This game, though in the use of its appropriate weapon it appears a further development of the *pelotè*, shows in all other respects a completely new departure. It is played in sides, and with goals—in a word, it has contracted an alliance with, it has borrowed the methods of, football. How this alliance came about it is not easy to determine; but it is certainly possible to conjecture. At first sight the observer is likely to say to himself, if he think at all of the derivation of the name—"Oh yes, the name '*lacrosse*' must certainly come from the '*cross*' which the weapons so constantly make as the players counter each other in the course of the game." This is picturesque, but unfortunately, as a derivation, it is almost certainly incorrect. In the "*Dictionnaire des lettres, beaux-arts, sciences morales et politiques*" of Bachelet and Dezobry we find: "*Crosse (jeu de) ou de criquet, jeu qui se joue à deux. Un joueur, placé près de 2 picquets de bois plantés en terre à quelque distance l'un de l'autre, s'applique, avec une crosse ou bâton courbé par un bout, à repousser une balle que le second joueur cherche à faire passer entre les picquets. Les rôles sont intervertis, quand ce résultat est obtenu. V. Cricket.*" When, in obedience, we do

vide "Cricket," we find our national game not ill described.

There seems very little room for conjecture about the origin of the name of *lacrosse*. The French Canadians played a game with snow-shoes which they called *crosse*, or *lacrosse*, from the name of the instrument with which they had been accustomed, in their native land, to play a game somewhat distantly resembling it.

In thus tracing down the evolution of ball games, from the point of view of the development of the weapon used in them, we are now at the farthest point. The bare hand was the original protoplasm, the weapon used in *lacrosse* is the man of the nineteenth century. We may now go back to the beginning of things again, and see man throwing his ball at a mark. From this *throwing* at a mark it is but one step toward *hitting* at a mark; it is also but one step to another player getting in the way and *preventing the mark from being hit*. Each is but one step in the evolution, but the steps are in different directions. The former step evolves golf, the latter cricket. When the two species thus evolved form an alliance, the result is hockey, or, in the absence of hockey-sticks, football, or, with the addition of ponies, polo.

Now, whether or no we are to attribute to the *jeu de crosse* our game of cricket, as the "Dictionnaire des lettres, beaux-arts," and the rest of it would suggest, we shall at all events find a very near relation of our golf in another French game, the *jeu de mail*. In the same learned "Dictionnaire" we find: "*Mail (jeu de), jeu qui consiste à pousser sur une route ou sur de longues allées, en les frappant d'un coup avec une petite massue appelée mail, des boules de bois, de manière à parcourir le plus grand espace possible, et à toucher finalement un but marqué.*"

Certainly "*une route ou de longues allées*" do not seem to fulfil all the most desired conditions of a golf-links, though they may be better than many on which golf is played; but the ideal of the golf-stroke, combining the "far" with the "sure," is very well expressed. And as for the "*petite massue appelée mail*," do we not see in it the latest invention of Sir Walter Dalrymple? It is true that "*un but marqué*" is but a very general description of the golf-hole, but the exact character of the thing to be aimed at is a mat-

ter of the merest detail. In pictures of Van der Veyde and of Van der Veldt we see men playing at what is virtually golf, but aiming to hit little pegs stuck in the ice or earth. Likewise the golfer, or player at *mail*, in Rembrandt's etching, is probably playing at a peg, but this is little matter. There can be slight doubt that we have golf, in its essentials, before us in the *jeu de mail*. One may even go further, and hazard a conjecture that the very name of golf has only come to it by reason of a slight change in the character of the *but marqué*. Instead of a peg, a hole—a *golfe*—was to be the object aimed at, and from the *golfe*, or hole, this development of the game took its name. Is this a derivation *pour rire*? At least one has seen others more grave, which may be disproved as easily.

In fact it is found that the names of games run into each other and overlap. As has ever been the teaching of evolution, there is no definite line between species. The very name "*pelotè*," of which we have spoken as indicating the "basket" game, is used both in a generic and a specific sense—as football, which includes both Rugby and Association, Eton and Harrow; and billiards, which covers both the English and the French. So too of *pelotè*. The name is used both specifically, for the basket game or long game, and generally, to cover all the Basque games of ball. For *pelotè*, strictly Spanish, is the Basque term for a ball—from *pila*. If you say *balle* to a Basque, his thoughts wander to a dance. Similar to *pelotè*, in its generic sense, is the truly French *jeu de paume*. There is yet another game included under *pelotè* which we have not spoken of—namely, *rebot*, where there is an end wall as well as a front wall, though the sides are open. The name indicates the presence of the back wall, off which the ball may be taken on the rebound—the *rebot*.

Let us go to the writings of M. Charles Deulin, and especially to his "*Contes du roi Cambrinus*." There we shall find a wondrously true tale of a game called *chole*, wherein one Roger, a wheelwright of the village of Coq, became, through the grace of St. Anthony, who gave him a club, famous throughout all the country as *le grande choleur*, in which capacity he played many a game of *chole* with the devil, and from him won, at one time oi

another, several sackfuls of souls. Now the manner of this game of *chole*, which was played in French Flanders, is this. Two men agree to play a match. We will suppose that it is Tom Morris against Douglas Rolland. There is no special course—the game is played right across country. They settle on a certain mark, perhaps a church-door, say three miles off. Then they begin a Dutch auction. Tom says, "I think I can hit it in five innings." (We shall see in a moment what an "innings" means.) Rolland will then say, "I will back myself to hit it in four innings." Tom, not seeing his way to hitting it in three innings, will say, "Very well, then—off you go." Now an "innings" means this, that the man who is "in," and who is called the *choleur*, is allowed to have three hits toward the goal, teeing his ball each time, but that, after his third hit, the man who is "out," the *décholeur*, is allowed to *déchole*—that is, to tee up the ball, and have one hit in the contrary direction. Then the *choleur* tees up again at the place to which the *décholeur* drove the ball, and again has three hits forward. After which again comes the *déchole*—and so it goes on. If the *choleur* hit the mark within the number of innings in which he had backed himself to do so, he wins. If he fail, the *décholeur* wins.

In this game we have, obviously enough, the "missing word," the link between golf and hockey. The players use but one ball, as in hockey. In the hitting back we see the element of the more vigorous defence of a goal, which is the feature of hockey. Hockey is, in fact, an evolution from golf by way of *chole*.

When you have the ball and the goals, but no sticks, a ready-to-hand way of playing is to kick the ball—Association football—or to pick it up and run with it—Rugby football—or, if snow-shoes are handy, to catch the ball in them and run or throw it—*lacrosse*. If you care to make your hockey-sticks a little longer, and mount on ponies, you play the same game, but call it polo.

The instruments are evolved according to their adaptability to circumstances. The Rugby football is made long and narrow, for ease of tucking it under the arm as you run. The Association football is all adapted for kicking purposes, because here you are not allowed to handle the ball.

The rules of each game are likewise a matter of gradual evolution. Old Rugby boys tell us of a time when the school used to be divided into two halves. One half was stationed behind one goal, the other half behind the other. The ball was put in the middle. At a given signal the two halves charged upon the ball and upon one another, and—*there were no rules!* The simplicity of it is charming. There was the ball, there the goals. It was the business of the one side to get the ball between one of the goals, of the other side to get it between the other, and it did not matter how it was done! In "Tom Brown's School Days" we see the game almost in its most primitive form.

There is a game, similar only "more so," still played at a certain town in the North—at Whitehaven, I think. There, annually, on Shrove Tuesday, a great match is played between the miners on one side against the shipwrights on the other. The game is played with a football. The object of the miners is to get the ball over a great wall skirting a garden; the object of the shipwrights is to get it to the mouth of the harbor. The shipwrights are drawn up on one side, the town side, of the river which flows by the town; the miners are drawn up on the opposite side of the river. The ball is kicked off from a bridge which spans the river, and *it is kicked off into the river*. Imagination can do better justice than words to the resulting contest. It is amphibious in character, and, like the primitive Rugby game, it is without rules. The office of kicker-off is one of high honor: it is hereditary, descending from father to son, according to the Salic law.

A somewhat similar game, but with the watery element left out—which, for many reasons, including sanitary ones, is to be regretted—still survives in primitive parts of the Cornish and Devonshire border.

Historically, however, it would seem as if that which looks like the latest development of these games with goals were in fact the earliest. For in the "Arabian Nights" we read of a wise sage who cured a great king by a decoction with which he anointed the handle of a stick with which the king was in the habit of playing a game at ball, to the end that when the royal hand perspired in the vigor of the play the open pores might receive the

medicament. The translator speaks of this stick as a "golf-stick" (*sic*), but it is plain from the context that the game was played on horseback. It was, in fact, polo. Indeed, the illustrations of the very same edition show the said king playing the game on horseback. We are forced to the sad conclusion that the translator was no golfer. Indeed, all the games of the ancients show evidence of great elaboration—knuckle-bones, with its endless variations, and chess, the most scientific of all in its subtlety.

The great game of cricket seems to have reached, in a bound, its latest development, and to be incapable of further evolution, if we except the methods of the "Notts stylists." It is easy, however, to conjecture its growth from the primitive defence of the wicket by a single batsman from the attack of a single bowler. Spectators would throng around. "Thank you, ball," the bowler would call out to them—at once you have your "field." Sometimes the batsman would make a hit of great merit. How was the merit to be gauged? Measuring was troublesome, the

time test difficult to apply. "I could run a mile before Gunn could overtake that ball and throw it back," we might imagine the batsman to boast. "Try," says the bowler; and at once the system of "runs" was introduced.

Rounders and base-ball are but variations, more or less elaborated, of the idea. The methods of trap, bat, and ball, and of knur and spell are somewhat different, but the main principles are the same. We go no farther in the evolution than cricket.

It is noteworthy in the retrospect to observe the number of games we have traced to the Basques. There are those who trace all things to the Basques,—chiefly, it would seem, because neither the Basques nor their language are traceable to any source but themselves. There are some who say that Adam was a Basque, and the Garden of Eden in the neighborhood of St. Jean de Luz. Be that as it may, it seems that their country has been the nursery of very many a game in which the latter age of man still takes delight.—*Blackwood's Magazine*.

TENNYSON AS A NATURE-POET.

BY THEODORE WATTS.

AMONG the many and various "aspects of Tennyson" which can occupy the critic's attention, none is more fascinating than that which shows the poet as a delineator of the beauties of Nature. And surely this "aspect" of his genius will come upon us with a pathetic power on the day when these words will appear in print, the first May-day that we have known without his presence among us to make sweeter the season's sweetness.

His lovely pictures of England in summer, in autumn, and in winter show that, like Chaucer and like Shakespeare, he loved England all the year round; yet he loved her most in this very month, when our English lanes, to use his own words, are "white with may;" when the cuckoo, who has already begun to tell "his name to all the hills," is in his best and freshest voice; when, far overhead, the skylark "can scarce get out his notes for joy," and when by the time skylark and cuckoo have begun to get tired the nightingale

takes up the music, and carries it on; while the mingled breaths of primrose, violet, and celandine rise like a perfumed mist, a visible incense, toward the sunset, and the stars begin to shine through the branches of the dingle.

But who shall write adequately of Tennyson as a Nature-poet? In poetical criticism, to bring any poet under a classification is extremely difficult; in the case of Tennyson, whose genius is so many-sided, it is almost impossible. Yet, as regards the various methods of confronting Nature characteristic of the various poets, it may be convenient in the present essay to divide all poets into the three following groups; though we must always bear in mind that, as the members of one group are constantly seeming to pass into another, no invariable line of demarcation can be drawn between them.

First, poets who, whether from original impulse or from the influence of the artistic methods of their time, treat Nature

simply as the background of the human story.

Secondly, poets upon whom Nature produces a kind of ecstasy that may be called Sufeyistic, an ecstasy resulting in a rapturous hymn to her glory, rather than in a vivid picture of her features.

And, thirdly, poets whose impulse is simply to paint the features of Nature in every detail of their beauty, using the human story merely as an artistic *raison d'être* for an objective representation of Nature, or at least a representation as objective as the medium at the command of an artist whose material is words will allow.

In trying to find Tennyson's place among these groups, it is here proposed to consider him in relation mainly to those English poets who immediately preceded him, and whose methods in all things were inspired, more or less, by the neo-romantic temper—the poets who form what has been called by Mr. Stedman "The Georgian group," though it will sometimes be necessary to glance for a moment at the more prominent Victorian poets now living, such as Mr. Swinburne and Mr. William Morris, by way of illustration.

Restrictions of the space at our command necessitate this restriction of survey. To institute a proper comparison between Tennyson and Browning would alone require a separate article; another article would be required in order to institute a comparison between Tennyson and Wordsworth's illustrious pupil, Matthew Arnold, and another to institute a comparison between him and the line of living poets from Mr. Frederick Tennyson down to the present hour.

And as to Tennyson's relations to the Greek and Latin poets, even if there were room here to give these relations more than a hurried glance in passing, there would be no need to do so after Mr. Herbert Paul's study of them in his brilliant contribution to this series last March.

With regard to the first of the three classes of poets indicated above, those who, always feeling that

The proper study of mankind is man,

use Nature merely as a background for some dramatic picture, Homer, Dante, and Chaucer belong to this class no less clearly than do Æschylus, Sophocles, and Shake-

speare. "We call Homer an epic poet," said Mr. Gladstone in Chambers's *Encyclopædia*, "but he is instinct from beginning to end with the spirit of the drama, while we find in him the seeds and rudiments born of its form."

An admirable criticism! While in the art of Æschylus and Sophocles the scenery is of necessity left mainly, if not altogether, to those sister-arts which pure drama calls in to aid that illusion which is the poet's quest, in the art of Homer the descriptive passages always advance the dramatic action; or, if they do not actually carry it on, Homer always takes care that they shall seem to be doing this. So dramatic is he—almost more dramatic than the dramatists themselves—that there is not in either of the two epics any descriptive passage so apparently written for its own sake as that description by Sophocles of the groves he loved.

When Homer makes mention of the earth's "soft arms," it is in connection with the human story; it is to call up the pathetic picture of the unconscious Helen's brothers asleep for ever in those arms. When he alludes to Lacedæmon, it is to remind us that it is the "fatherland" of those dead heroes who sleep there:—

Ὡς φάτο· τοὺς δ' ἤδη κάτεχεν φρεσὶς αἶα
ἐν Λακεδαίμονι αὐτοί, φίλῃ ἐν πατρίδι γαίῃ.

Again, in that famous passage in the eighth *Iliad*, translated by Tennyson himself in language as divine almost as Homer's own, every word of a passage so picturesque that it might really have been introduced partly to gratify the poet's own love of description seems somehow to add to the reader's expectance of the glorious fighting to come with daylight.

Of course it is impossible here to touch upon the descriptive passages in any of Homer's successors in epic and narrative art. Yet, in order to elucidate the classification of the poets above made, a word or two must be said about our own Chaucer.

The healthiest poet that has appeared in modern literature, save Walter Scott, Chaucer shows in his poetry nothing but the sweet acceptance and melodious utterance of that same spirit which informs Scott's stories in poetry and prose—the spirit that enjoys the beauty of this beautiful world as it is. Of that beauty, however, the part played by Nature's loveliness is in no way the first.

Ebullient as is his delight in the beauties of Nature, when he does dwell upon them for their own sake he always takes as much care as ever Homer did, or the singer of the "Chanson de Roland," or the sagaman of the *Völsunga Saga*, not to linger so long over them as to create the impression in the reader's mind that the poet's own interest in his men and women has cooled.

The riches and the wonderfulness of man's life occupy his imagination as they did Homer's—occupy it so entirely that the riches and the wonderfulness of Nature, which in poets of the third group take the primary place, are with him quite secondary. Though his delight is to paint pictures—though of all English poets he is the most purely artistic, and cares not from what source he draws his material so that he can paint for his own enjoyment and ours a beautiful picture of man's life, when he paints Nature, it is merely as a background to this human picture. Had the trees and rivers he loved, the daisies that made his heart leap like a child's whenever he looked upon them, or the birds whose carols were so dear to him, lost their association with the human story, they would have lost for him much of their charm.

Although Tennyson does not belong specially to this group, although his deep knowledge of Nature prevented him from really looking upon her as nothing more than the background of the human story, his artistic instinct was so true and so sure that in his narratives he is as careful as Homer, as careful as Chaucer, never to let the movement of the reader's imagination be arrested by the unnecessary obtrusion of landscape, however beautiful.

With regard to the second group of poets, those upon whom the beauty of Nature produces a vague rapture, a kind of Sufeyistic ecstasy, it may, perhaps, be safely affirmed that none of these are to be found among the Greeks.

The temper, indeed, is mystical, and perhaps it had originally much to do with sun-worship. It is called here Sufeyistic because it reached its acme in the Persian Sufeyistic poets. But of course it is nothing more than the response to that marvelous magnetic power which Nature exercises over certain temperaments. In order to show what this temper really is, I can-

not do better than quote the following striking verses from *Ferridoddin*, as given by Mr. Vaughan:—

Joy! joy! I triumph now; no more I know
Myself as simply me. I burn with love.
The centre is within me, and its wonder
Lies as a circle everywhere about me.
Joy! joy! no mortal thought can fathom me.
I am the merchant and the pearl at once.
Lo! time and space lie crouching at my feet.
Joy! joy! when I would revel in a rapture,
I plunge into myself, and all things know.

The late Professor Palmer considered all Sufeyism to be the worship of the good and the beautiful, as expressed by Nature's beauty; and he promised some day to show that it was nothing more than the development of the primeval religion of the Aryan race.

The truth seems to be that this ecstatic temper has but little to do with races, but is the individual expression of certain exceptional souls to be found in several races. In Celtic poetry that hymn to May Day which, whether it was or was not written by "Ossian's father," as affirmed by the editor of the *Transactions of the Ossianic Society*, is certainly very old, is full of this response to Nature's magnetism, and is very beautiful with its description of the heath spreading out its long hair as if in delight at the blackbird's song and the cuckoo's chant. The Finns and the North American Indians have not much to do with the Aryans, yet they seem to know this ecstasy. The poet of the *Kalevala* exclaims:—

The waves of the sea have spoken to me;
the wild birds have taught me, the music of
many waters has been my master.

And Mr. Leland has translated a most remarkable Wabanaki song which seems to disclose much of this same ecstasy, though the human love-passion is no doubt mingled with it.

Come, my *moo sarge*, let us go up that shining
mountain, and sit together on that shining
mountain; there we will watch the beautiful
sun go down from the shining mountain.

There we will sit, till the beautiful night
traveller arises above the shining mountain;
we will watch him, as he climbs to the
beautiful skies.

We will also watch the little stars following
their chief.

We will also watch the northern lights playing
their game of ball in their cold, shiny
country.

There we will sit, on the beautiful mountain,
and listen to the thunder (*Badankac*)
beating his drum.

We will see the lightning when she lights her
pipe.

We will see the great whirlwind running a
race with *betchi-vesay* (squall).

* * * * *

There we will sit on that beautiful mountain,
and watch the little stars in their sleep-
less flight.

* * * * *

Among English poets, Coleridge displayed a good deal of this temper, and Wordsworth had much more than Coleridge, as may be seen from the following example:—

The sounding cataract
Haunted me like a passion.

I have felt

A presence that disturbs me with the joy
Of elevated thoughts, a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky and in the mind of man—
A motion and a spirit which impels
All thinking things, all objects of all thought,
And rolls through all things.

Keats, too, in the "Ode to a Night-
ingale," passes gloriously into this mood.
But, of course, it is to Shelley among Eng-
lish poets that one naturally turns when
the Sufeyistic rapture of the Nature-in-
toxicated poet comes under discussion.
An essay might be filled with examples of
Shelley's ecstatic hymns to Nature and
about Nature, full of a Sufeyism such as
is surpassed in no literature, and such as
was never equalled until the appearance of
Mr. Swinburne, upon whom Shelley's
mantle in this respect seems to have fallen.

Indeed it would be difficult to say which
is the most overflowing with the quality
under discussion, Shelley's "Ode to the
West Wind" and the "Ode to a Sky-
lark," or Mr. Swinburne's Nature-lyrics,
from the choruses in *Atalanta* down to
his latest poem. Of this temper Ten-
nyson shows nothing; for such impass-
ioned addresses to Nature as occur in
Maud are inspired by a lover's passion for
his mistress, and have nothing to do with
the Sufeyistic passion of the Nature-in-
toxicated poet. Nor is there any sign in
his poems that before he can assimilate
the beauty of a landscape and make it his
own he has to translate the mental image
of it into poetic diction and metre, as

Weber had to translate his mental image
of a landscape into the language of abso-
lute music.

With regard to the third group of poets,
those who give us pictures of Nature that
seem painted for their own sake, whatever
might have been the real impulse of any
one of the ancient poets (whether Sopho-
cles in the *Ædipus Coloneus* felt the im-
pulse to go on describing his beloved
groves, or whether Æschylus in the
Prometheus felt the impulse to make a
picture of the dimpling deep, or in the
Agamemnon felt the impulse to pursue his
marvellous description of the sultry sea),
as a matter of fact, it is only the poets of
the modern world who have exhibited in
any great degree the impulse to linger
over the beauties of Nature until the
human interest of the poem is weakened.
For, lovely as are the descriptive touches
of Theocritus and his followers, they can-
not be said to arrest the dramatic action:
they make it move a little more slowly,
that is all.

In the modern world, the country that
has produced William Browne and James
Thomson, William Wordsworth and John
Clare, stood at the head of all others in
the matter of descriptive poetry, even be-
fore Tennyson came.

But have not the very words, "Tenny-
son as a Nature-poet," a magic in them?
I think they will carry the mind of many
a reader of this Review far away from the
dust and noise of the London season, to
that well-remembered day when first he
revelled in the delights of Tennyson's Eng-
lish idylls, reading the precious little green
volume, perhaps, under the elms of an
English home, as he lay, a dreamy boy,
on the grass, undisturbed by any sound
save the bird-voices from the thicket, the
caw of the homing rooks sailing toward
the spinney, the low of a cow knee-deep
in the river-shallows glittering golden at
one moment, at the next rusy, or the
crunching sound of teeth cropping and
tearing the daisied grass beside the brook,
as a feeding horse drew nearer and nearer
with lazy stamp of foot and swish of tail,
while

Twilight poured
On dewy pastures, dewy trees,
Softer than sleep.

To say that, as a painter of the beauties
of Nature for their own sake, Tennyson

stands before all the "Georgian poets" is, no doubt, to utter a bold saying, for it is to put him in this respect above very great masters in this line: above the poet who wrote *The Prelude*, *The Excursion*, and the lines on Tintern Abbey; above him who wrote *Christabel*, above him who wrote the ode to a Skylark, above him who wrote the "Ode to a Nightingale." In depicting landscape, whether by the painter's art or the poet's, there are always two matters for consideration: the contour of the land and the life, vegetable and animal, that clothes it, and it is necessary to bear in mind that the poet who takes a first place in rendering one of these two elements of a landscape will sometimes take only a second place in rendering another; though, of course, there is no psychological necessity why this should often happen.

In delineating the contour of the land, Tennyson allows himself a freedom of composition unknown to the art of Wordsworth. It is this as much as anything which lends that brilliance to his pictures which is one of their chief characteristics. These pictures are flashed, not upon the mental perception merely of the reader, but upon his very senses.

The method is legitimate enough, as Coleridge, judging from his own descriptions, would have allowed; but Wordsworth would not have sanctioned it. For while Wordsworth's one desire is to paint the contour of the land before him with the same accuracy with which Tennyson paints vegetation, Tennyson's desire is to seize the characteristic features of the land's outline, and exercise upon them that artistic composition of which he is so great a master. The composition of the landscape in Coleridge's *Kubla Khan* is scarcely more bold and more triumphant than is the composition of some of Tennyson's quiet pictures.

And yet so consummate an artist is he that the effect is that of realism. It is the exercise of this composition in rendering the scenery of his native county which has so often proved a stumbling-block to writers like Mr. G. M. Napier, the Rev. A. J. Church, Mr. Cuming Walters, and other charming writers, who, in their love for Tennyson, would fain localize his pictures.

As the author of *Nature in Books*, Mr. Anderson Graham, well says, however,—

When he sang the song of the brook he was not celebrating the clear and rapid streamlet that glances past Tetford with a ripple like a smile just breaking into laughter; but the summer setting of his immortal burden—the fairy forelands, the sailing blossom, the fresh wet ferns—belongs to a flat country.

The truth seems to be that, plastic as is the poetic temperament, apt as it is to recall those special aspects of Nature by which in childhood the poet was surrounded, there is sometimes an ancestral strain in human nature which is stronger than any environment, giving a man an instinctive passion for mountain scenery, or for woodlands, or for the sea, irrespective altogether of birthplace associations. And as to Tennyson, so masterly is his hand in painting Nature, that it is not so easy as is generally supposed to say what kind of landscape he paints best.

The perfection of his descriptions of Lincolnshire scenery should not blind us to the perfection of his other descriptions of Nature, where the scenery is of a very different kind. In the power of calling up imaginary landscape he never had an equal, save Coleridge, among English poets. Had he been as familiar with the loveliness of the Pacific islands as Herman Melville or Mr. Louis Stevenson, it is difficult to imagine how he could have described it more gorgeously than he has done in those marvellous verses to Milton:—

Me rather all that bowery loneliness,
The brooks of Eden mazily murmuring,
And bloom profuse and cedar arches
Charm, as a wanderer out in ocean,
Where some refulgent sunset of India
Streams o'er a rich ambrosial ocean isle,
And crimson-lined the stately palm-woods
Whisper in odorous heights of even.

And it is equally difficult to imagine that, had he himself undergone Enoch Arden's experience on the coral island, he could have given us a picture more vivid, and at the same time more true, than this:—

The league-long roller thundering on the reef,
The moving whisper of huge trees that branch'd
And blossom'd in the zenith, or the sweep
Of some precipitous rivulet to the wave,
As down the shore he ranged, or all day long
Sat often in the seaward-gazing gorge,
A shipwreck'd sailor, waiting for a sail:
No sail from day to day, but every day
The sunrise broken into scarlet shafts
Among the palms and ferns and precipices;
The blaze upon the waters to the east;
The blaze upon his island overhead;
The blaze upon the waters to the west;

Then the great stars that globed themselves in
Heaven,
The hollower-bellowing ocean, and again
The scarlet shafts of sunrise—but no sail.

More wonderful still is the following picture of a city on a distant mountain-side, as viewed through the desiccated air of a tropical desert country, where objects at an immense distance are seen dwarfed, as though the observer were looking through the wrong end of a telescope :—

He seems as one whose footsteps halt,
Toiling in immeasurable sand,
And o'er a weary sultry land,
Far beneath a blazing vault,
Sown in a wrinkle of the monstrous hill,
The city sparkles like a grain of salt.

As regards his exercise of composition in landscape, if we compare that passage in *The Prelude* where Wordsworth paints the moon rising over Snowdon with one of Tennyson's bits of mountain scenery, we shall see the fundamental difference between the methods of the two poets :—

For instantly a light upon the turf
Fell like a flash, and lo ! as I looked up,
The Moon hung naked in a firmament
Of azure without cloud, and at my feet
Rested a silent sea of hoary mist.
A hundred hills their dusky backs upheaved
All over this still ocean ; and beyond,
Far, far beyond, the solid vapors stretched,
In headlands, tongues, and promontory shapes,
Into the main Atlantic, that appeared
To dwindle, and give up his majesty,
Usurped upon far as the sight could reach,
Not so the ethereal vault ; encroachment none
Was there, nor loss ; only the inferior stars
Had disappeared, or shed a fainter light
In the clear presence of the full-orbed Moon,
Who, from her sovereign elevation gazed
Upon the billowy ocean, as it lay
All meek and silent, save that through a rift—
Not distant from the shore whereon we stood,
A fixed abysmal, gloomy, breathing-place—
Mounted the roar of waters, torrents, streams
Innumerable, roaring with one voice !
Heard over earth and sea, and, in that hour,
For so it seemed, felt by the starry heavens.

Here the charm of the description depends very much on the fact that we feel it at once to be an actual transcript of Nature. Now, let us first compare the passage with a landscape written by Tennyson in the Pyrenees, and published in 1833, a landscape displaying as little attempt at composition as is discoverable in Wordsworth's lines :—

There is a dale in Ida, lovelier
Than any in old Ionia, beautiful
With emerald slopes of sunny sward, that lean
Above the loud glenriver, which hath worn

A path thro' steep-down granite walls below,
Mantled with flowering tendriltwine. In front
The cedarshadowy valleys open wide.

Ten years afterward this same landscape appeared transfigured by the hand of the greatest master of composition that has ever appeared in English poetry. And now compare all the three with each other :—

There lies a vale in Ida, lovelier
Than all the valleys of Ionian hills.
The swimming vapor slopes athwart the glen,
Puts forth an arm, and creeps from pine to
pine,
And loiters, slowly drawn. On either hand
The lawns and meadow-ledges midway down
Hang rich in flowers, and far below them roars
The long brook falling thro' the clov'n ravine
In cataract after cataract to the sea.
Behind the valley topmost Gargarus
Stands up and takes the morning : but in front
The gorges, opening wide apart, reveal
Troas and Ilion's column'd citadel,
The crown of Troas.

No doubt it is hill scenery, and not mountain scenery, that both poets give us here : the true atmosphere of the mountains above the belt of vegetation is a very different thing.

Shelley's description of the

Eagle-baffling mountain,
Black, wintry dead, unmeasured ; without
herb,
Insect, or beast, or shape, or sound of life

is not without this atmosphere ; and the same may be said of Byron's lines in *Manfred* :—

Ye crags upon whose extreme edge
I stand, and on the torrent's brink beneath
Behold the tall pines dwindled as to shrubs
In dizziness of distance.

Byron on several occasions showed that he had a real imaginative sympathy with treeless, herbless peaks and glaciers, and, had his physical infirmities allowed it, he might have brought into poetry the true magic of Alpine scenery—perhaps the one thing in landscape still left for the poet to achieve. Save in the modest Wordsworthian way, the poet is not often a mountaineer. And it is to be feared that our contemporary knights of the alpenstock would not get much enjoyment out of the mountain atmosphere, even of Shelley and Byron. The man who could keep his head at the Dent du Géant, or ascend the Matterhorn from Breil by aid of "Maquignaz's rope," or accompany Mr. Crawford Grove along that narrow ribbon

of path, a few inches wide, winding upward, corkscrew-wise, round the mountain's very top, with an abyss yawning thousands of feet below, could hardly be expected to feel much of a thrill from the word-painting of the boldest mountain bard.

It is not the Matterhorn, as I have once before hinted, but only Parnassus, that you can effectively climb in dreams.

Perhaps, indeed, the delight of gazing in the distance at the mighty vistas of mountain scenery has but little to do with the passion for mountaineering, which is entirely modern. Not, of course, that the knight of the alpenstock is without the poet's love of Nature's beauties; but then, his first passion is to climb. The steeple-jack of "Parvati," the "Lady of the Hills" (who becomes *Natura Benigna* or *Natura Maligna* according to the strength or the weakness of the feet that climb), the mountaineer, alone knows Nature in her most secret lairs, and, knowing her, he must needs worship such might as hers; but first and foremost he is a climber. In the same way that the spectacle of Epsom Downs on Derby Day is a mere dream-picture to the business-like member of the Ring, and in the same way that the fairy-like loveliness of a salmon-river is a mere dream-picture to the true salmon-fisher, so the dazzling vistas of beauty to be seen from lofty mountain peaks form but a dream-picture to the climber, whose business it is to keep up with his guides. The passion for the glories of mountain scenery is of so recent a birth that there has scarcely been time, as yet, for the true mountaineer-poet to be evolved. When Nature shall have joined in one and the same man the peculiar gifts of the contemporary mountaineer with "the vision and the faculty divine," the Spirit of the Mountains will find a voice in poetry. But even apart from the hopes we may have that some of our younger poets may impart the true mountain atmosphere into poetry, Tennyson himself has shown how rash it is to say that any *tour de force* is beyond that marvellous power, a great poet's imagination.

Already, however, as much space as can be here afforded has been given to the subject of the contour of the land in descriptive poetry.

With regard to descriptions of the life, vegetable and animal, that clothes the

land, it is here that the poetry of England is far richer than any other poetry. How, indeed, should it be otherwise, seeing that the English poet has for fatherland the one country whose beauties in regard to her vegetable garment seem most to glow with the very breath of Nature's life. It is not till we have seen the loveliest spots in Europe that we are fully able to enjoy the peculiar loveliness of England; it is not until we have drunk our fill of the grandeur of Continental scenery, not until we have tasted the awed rapture which comes upon the soul in the mountain-fastnesses of the Alps, that we really understand the witchery of England that entranced Tennyson more and more with every year that passed over his head, the witchery of this England, which he has left more beloved than ever he found it. Yes, indeed—though ever since the time when Chaucer's

Elf quene with hire joly compaignie
Danced full oft in many a grene mede,

down to the moment when his own purple glens replied to

The horns of Elfland faintly blowing,

England has seemed to her poets the natural domain of Nature's more beneficent forces, the real home-park of Oberon and Titania, the real playground of all the good-people of *A Midsummer Night's Dream*—Tennyson has left her more beloved than ever he found her.

But what is the cause of the peerless beauty of Tennyson's England? Does it lie in the gentle contour of the land? Scarcely so, for there are large sweeps of landscape just as gentle and just as undulatory in Italy and in France as in England. If we study Tennyson well, especially if we study him in this beautiful month, and among such surroundings as those indicated in the opening words of this essay, we may learn the secret of England's witchery—we may learn that it lies largely in the peculiar beauty of the vegetation with which the land is clothed, a vegetation which Mr. Wallace declares to be, even as regards rich masses of color, far above the splendors of tropic vegetation; and we may learn also, that this beauty comes in a large degree from the "useful trouble of the rain."

Between English men and English trees and grass and flowers there is a peculiar

sympathy. It is not in tropical and sub-tropical countries only that the vegetable world seems, even in its happiest moments, to be oppressed by the dread of the more cruel forces of Nature, such as the eye of the sun in his fierce and pitiless moods and the cruel breath of the wind, which are waiting, the one to burn it up, the other to shatter it.

Even in the temperate climes of continental Europe the vegetable world seems to have a kind of ancestral reminiscence of that terror of the sun and wind which tropical vegetation shows; or, at least, it does not seem to be tasting so true an enjoyment of existence as vegetable life seems to enjoy in England, whose hottest wind is in some degree cooled, and whose bitterest blizzard is in some degree tempered, by the protecting breath of the genial sea. It is not only "the liberties of England" that, as Douglas Jerrold used to say, "are preserved in brine." The delicate air and the moist breezes that she owes to her seas lend the brilliant living green to her grass and leaves, and the soft and pearly bloom of living glow to the complexion of her flowers. In other words, it is the very quality of our climate which foreigners find uncomfortable that makes, not only every flower, but every leaf and blade of grass, seem to "enjoy the air it breathes." Even before science had shown that to draw the line between conscious animal life and what is called unconscious vegetable life is impossible, there was a sort of half-recognition in the human mind of a sentience in plants. And if in most Continental countries, perhaps in all, the vegetable world seems to be conscious of the insecurity of its joys, if there is no bond of sympathy so strong as the bond of mutual enjoyment, need we go far in search of an explanation of that great link of affection between English people and the flowers and trees and grass of England?

Perhaps, indeed, the chief source of the fascination of country life for Englishmen, perhaps the reason why the final goal of every English gentleman (whatever intermediate ambitions may distract him for a time) is to retire to some old Locksley Hall or Moated Grange, and become, as far as his head gardener will allow him, a cultivator of trees and flowers, lies in the fact that the vegetation of the old place seems conscious of his presence, seems to

know him and welcome him. Some will, no doubt, smile at this as an idle fancy. It cannot be denied, however, that from Chaucer down to Shakespeare, from Shakespeare down to the present day, between the people and the vegetation of England the link has been uncommonly close. It cannot be denied that, while the poet of other countries often (though, of course, not always) speaks of flowers and trees and grass as beautiful pictures, part of a still larger picture, the English poet never speaks of them in this way, but speaks of them as beautiful creatures that have a conscious enjoyment of life akin to his own.

From Tennyson with his

Groves that looked a paradise
Of blossom, over sheets of hyacinth
That seemed the heavens upbreking thro'
the earth,

up to Shakespeare with his

Daffodils,
That come before the swallow dares, and take
The winds of March with beauty,

then up again to Chaucer's loving descriptions of the English flowers, especially of the daisy, the poet makes the vegetable world share in his enjoyment. Nay, we might go further still: we might go right up to the earliest of all our Nature-lyrics, the lovely "Cuckoo Song" of the first half of the thirteenth century, where the mead "blows," the seed "grows," and the new wood springs in an enjoyment as conscious as that of the cuckoo, the lamb, and the buck.

Summer is icumen in ;
Loudè sing, cuckoo ;
Groweth seed, and bloweth mead,
And springeth the wood new.
Sing, Cuckoo !

Ewe bleateth after lamb ;
Loweth after calvè cow ;
Bullock sterteth, bucke verteth ;
Merrie sing, cuckoo.
Cuckoo, Cuckoo.

And, notwithstanding all that has been done in this line since Shakespeare and the Elizabethan poets, especially by Wordsworth and Keats, Tennyson—acknowledged to stand at the head of English poets as a painter of the vegetable world of England—has, let me repeat once more, left England more beloved than ever he found her.

Hundreds of such lines as

The twinkling laurel scatters silver lights.

Their broad curved branches, fledged with
clearest green

New from its silken sheath,

might be quoted to show that so true is Tennyson's eye for the vegetable garment of Eng'land, that a naturalist might enter in his note-book any of his descriptions of it, with entire confidence that it could never be impeached—a statement that cannot be made concerning many an observer whose aim is merely scientific.

And here, did space permit, a very remarkable characteristic of Tennyson's might be touched upon. The biologists tell us that the history of the progress of organisms, from the primitive condition to the more complex structures, can be traced by the broader and brader division of sense from sense. As a rule, it is perhaps the same with the growth of poets as painters of Nature. At first the sense of music, the sense of color, the sense of form, seem so blended that the power of seizing upon physiognomic details, which the prose writer can very early command, seems to be beyond the poet. But as he grows this, among other of the faculties of the poet, comes in and aids, strengthens, and enriches his poetry. This, however, was not the case with Tennyson. His eye was as true when he wrote *Mariana in the Moated Grange* as when he flashed upon us the concentrated pictures of his latest volume.

A lover of the vegetable life of England could not fail to be also a lover of the streams, the lakes, the meres, and the brooks, that do so much to foster that life. Tennyson shares Wordsworth's delight in the effects of light and shade upon fresh water. He has, perhaps, nothing equal to Wordsworth's

The swan on still St. Mary's Lake ;
Floats double, swan and shadow ;

but then he gives us in

The long light shakes across the lakes

a picture which can never be forgotten. And in the use of the plural "levels," in this description in the *Morte d'Arthur* of a lake under the wintry moon, he achieves a veritable miracle of realistic picture :—

He, stepping down
By zig-zag paths, and juts of pointed rock,
Came on the shining levels of the lake.

He is great whenever he touches a river,
greater still whenever he touches a brook.

To him, indeed, a brook is almost as much a living thing as the trees that overhang it, the cresses that live under its stream, and the fish that glide over its gravelly bottom.

And if Tennyson is great as a painter of the trees, the grass, and the flowers of England, he is great also as a painter of the beautiful creatures that live among them ; though here, perhaps, other English poets are at least his equals, especially poets like Wordsworth, Scott, and Matthew Arnold.

As a rule, perhaps he is more apt than any of these to treat animal life as part of the landscape, but in doing so he is second to none.

In painting birds he is especially happy. And no one has given us a picture of fish in a stream so lovely as the famous one in *Enid* :—

Like a shoal
Of darting fish, that on a summer morn
Adown the crystal dykes at Camelot,
Come slipping o'er their shadows on the sand,
But if a man who stands upon the brink
But lift a shining hand against the sun,
There is not left the twinkle of a fin
Betwixt the cressy islets white in flower.

This is finer than even Keats's picture of the bream in Arno :—

Where Arno's stream
Gurgles through straitened banks, and still
doth fan

Itself with dancing bulrush, and the bream
Keeps head against the freshets,

and is scarcely equalled by Mr. William Morris's description of "the bubble-making bream."

There is one poetic way of approaching the Animal Kingdom which must always be mentioned when the poetical treatment of the lower animals is under consideration—a certain playfully humorous way, which for convenience may perhaps be said to express the "mood of Burns." Not that Burns was the first who knew this mood, but he who wrote the lines to a field-mouse takes his place as its greatest master. It is the mood in which the poet's humor sheds upon the lower animals the sunshine of a love that is none the less deep for being playful—that humor which Uncle Toby generally sheds upon human kind, but which he can sometimes throw upon a blue-bottle fly.

Oddly enough, the two nineteenth-century poets who have inherited most of Burns's mood in regard to the lower animals are two who, in other respects, are unlike him, and are also the opposites of each other—Miss Christina Rossetti and William Barnes. Next to these comes Miss Ingelow; indeed, she might almost be ranged alongside them. There is room here for only one instance of the quality indicated, and it had better be taken from the Dorsetshire poet, whose admirable poems are too much neglected just now.

A yellow-banded bee did come,
An' softly pitch, wi' hushen hum,
Upon a beán, an' there did sip,
Upon a swayen blossom's lip:
An' there cried he, "Aye, I can zee
This blossom's all a-zent vor me."

There does not seem to be anything in Tennyson answering to this sweet method of entering into the consciousness of a field-mouse or of a bee by means of the dramatic insight that springs from a playful humor. If, however, this really is so, the lack is compensated for by his attitude toward what may be called the heroic side of the lower animals. There have been noble poems about the dog—his intelligence, his courage, his fidelity to man—but never one, perhaps, equal to Tennyson's "Owd Roa." And of one thing we may be always sure, that in describing animals, as in describing everything in Nature, he never fails, either in accuracy of essential knowledge or in accuracy of nomenclature. How much of this incomparable exactitude in painting natural objects is the result of an inherent love of Nature, and how much is due to the scholarly training through which his mind has passed, it might be difficult to say. For, of course, in gauging the strength of the Nature-instinct of a poet so scholarly as he, it is necessary to take into account the scholar's passion for exactitude. Without saying that Tennyson had the learning of Milton or of Ben Jonson, it may be said that his mind showed more of the scholarly *habit* than has been shown by the mind of any other English poet. Whatsoever object, either of Nature or of man's art, might be brought before him, he would confront it with that trained eye for seeing truly which characterizes the scholar. Hence, it is not only when put into comparison with poets who, however great, are proverbially inaccurate—poets,

for instance, like Victor Hugo, who, in his *Travailleurs de la Mer*, restores the great auk, and endows him with wings long and strong, and sets him triumphantly sailing like the stormy petrel on the blast, and performs many another miracle of the like kind in what may be called poetical zoology—but even when compared with the best observers of Nature Tennyson seems to be almost the only one who *never* goes wrong.

When we see that so true an observer as Barnes, to whom we are indebted for so many pictures of bird-life, as accurate as they are lovely, will sometimes seem to put into the missel-thrush's nest the eggs of the song-thrush, forgetting that the texture of the nest of the song-thrush is a web of woven roots mixed with moss and is lined with a cup "modelled," as Clare well describes it, "of wood and clay," we cannot but marvel at Tennyson's infallibility. Nor does he ever, by any careless departure from a severely accurate nomenclature, allow the reader to infer an inaccuracy of image in the poet's mind where, perhaps, no real inaccuracy exists, as is so often the case with poets whose inaccuracy is that of nomenclature merely. To him a swallow is a swallow, a martin is a martin. Never is the name of the one given to the other. And this is of more importance than the reader may perhaps imagine. When, in the "Day Dream," he tells us that outside the enchanted palace

Roof-haunting martins warm their eggs,

a picture is at once called up of the snow-white throats gleaming at the little doorways of the nests of the guests of summer, the "temple-haunting martlets" of Shakespeare.

To use the word swallow and the word martin indiscriminately, as almost all poets but Shakespeare and Tennyson do, is to damage the effect of the picture in the same way that would be done by a painter who should try to make blue produce the effect of blue-green. Had he said

Roof-haunting swallows warm their eggs,

though the added "w's" might have increased the alliterative music of the line, the reader's imagination would have been baffled by conjecture. No sooner would the ruddy throat and the long-forked tail of the true swallow have formed a picture

on the reader's eyes, than the martin's throbbing throat of burnished silver, and shorter tail, would have come, and both swallow and martin would have got mixed up in one blurred picture. A very interesting illustration of Tennyson's passion for accuracy of nomenclature may be given here.

Some time ago a friend of his, when touching upon the probable effect of the growth of science upon the nomenclature of poets, made the following remark: "To call a rook a crow, as a good English poet once did, showing thereby that he did not know that a crow is no more like a rook, either in appearance or in habit, than a horse is like a zebra, will, in a hundred years from this time—nay, in fifty years—be an unpardonable sin." Of course, it had never entered the writer's head to glance at the superb line in *Locksley Hall* where the generic word "crow" is used in describing the leader of the rookery. But he received from the poet a most interesting letter, in which the following words occur:—

In my county, and, I believe, all thro' the North, Rooks are called "crows."

* * * * *

"The many-wintered crow" in the line to which you allude is the old rook. I didn't wish to use rook twice in the same sentence.

* * * * *

I was driving with a friend some years ago in Derbyshire; some rooks flew by us. He said to me, Why do you make a crow lead the rookery? I answered, Ask the driver what he calls those birds. The driver, when asked, immediately replied, Crows, or rather Crows.

Yet this exactitude has in it nothing of the laborious cataloguing which we see in poets of the school of Erasmus Darwin, and sometimes even in Wordsworth. As an artist, indeed, Tennyson's instinctive skill in the selection of details is worthy of the deepest attention. It came to him as a mere boy. Even when he wrote *Mariana in the Moated Grange* he knew by instinct that, inasmuch as the literary artist's medium is not truly objective, like that of painting and sculpture, but entirely symbolical and subjective, his details must never seem to be painted for their own sake, as in the plastic arts, but must be supposed to exist for some ulterior purpose; that, just as in narrative poetry details must seem to be introduced as necessary parts of the action (otherwise the poet's own imagination will appear to have

cooled), so in descriptive poetry details must seem to exist because the sentiment underlying the description appears to be expressed by these details. On this point some of the most admirable descriptive poets will sometimes go wrong.

The delightful idyllist quoted above is not always perfect in this matter of selection. Take, for instance, the following lines in the lovely poem, "Milkèn Time":—

'Twer when the busy birds did vlee,
wi' sheenèn wings, vrom tree to tree,
To build upon the mossy lim'
Their hollow nestes' rounded rim;
The while the zun, a zinkèn low,
Did roll along his evenèn bow,
I come along where wide-horn'd cows,
'Ithin a nook, a screen'd by boughs,
Did stan' an' flip the white hoop'd pails
Wi' heäry tufts o' swingèn tails.

Here the very fact that the wide-horned breed of Hereford cows is so common in Dorset as to be almost universal, and the very fact that the hoops of the pails in Dorset, made of wood, are white, and unlike the metal hoops of some other parts of England—facts which have been advanced in defence of these details—would have prevented Tennyson from using the compound adjectives given in the above quotation, for they seem to be used with a self-conscious purpose apart from the sentiment of the poem—they seem to be here in order to make poetry compete with the plastic arts.

As a painter of cloud scenery and other aerial effects, Tennyson must very likely be set below certain other nineteenth-century poets. Here Scott is great, Wordsworth greater, and Shelley and Hugo greatest of all. To Shelley, movement was almost a necessary quality of all natural beauty. Moving waters, moving clouds, and the winds that move them, were his delight; and with all his love of forest-scenery, the woods in order to be thoroughly enjoyed must be swaying to the storm. The uncertainty and vague outline of all cloud pageantry had for Shelley a peculiar fascination. There are natures to whom the appeal of cloud-scenery is stronger than that of the loveliest landscape; but though Tennyson was not one of these, he used to lie on his back on the Down at Farringford or on the lawn for the pleasure of seeing the cloud-scenery. And at Aldworth, once, when he was re-

joining in some marvellous sky-phenomena, he was deeply interested in an account a friend gave him of a man who, having after years of toil accumulated a large fortune and become the owner of two or three country-houses, would on a Sunday afternoon in summer take a chair and sit for hours in his stableyard, closed in by buildings from any glimpse of the surrounding country, in order to watch the clouds overhead and the swallows darting and skimming underneath them. This having been the man's Sunday-afternoon recreation when a poor boy, as he sat in a little bricked court in London, he had learned that the best way to enjoy cloud-scenery is to be shut away from the other beauties of Nature.

The "Rainbow" song in *Becket* shows how he knew and loved that most fascinating of all aerial phenomena, the rainbow. In describing it, however, he has never equalled—indeed, who has?—Byron's superb description of a rainbow at sea in *Don Juan*.

There is in Tennyson's "Sea Fairies" a passage—a rather ambiguous one—which would seem to allude to one of the loveliest of all visions, which may sometimes be seen in a small lake, and in a slowly-moving stream like the Ouse, and even sometimes on the smooth sands of the East coast, when they are covered with a thin surface of sea water—a reflected rainbow.

And the rainbow forms and flies on the land
Over the islands free ;
And the rainbow lives in the curve of the sand.

A poet so sensitive to every mood of Nature as Tennyson could not fail to write admirably of the wind.

Mrs. Ritchie tells us that when he was no more than five years old he was once caught and swept along by the wind down the Rectory garden, crying as he was hurried past, "I hear a voice that's speaking in the wind;" and Mr. Arthur Waugh has some extremely interesting and suggestive remarks upon this.

It was his first line of poetry, and the idea was not to leave him for a moment. The sound of the storm has always had a voice for Tennyson, as dear in late years as when it first whispered to his babyhood.

Still, the great laureate of the wind is Shelley.

This brings us to a sublime natural ob-

ject which Tennyson painted with the hand of a master—the sea.

Though in those mountain-fastnesses which only the mountaineer of our own time has dared to scale Nature has hidden herself away from the poets, she has from the earliest times met them face to face upon the sea. Nor have they failed to make the most of these encounters. As regards the ancients, however, inasmuch as they looked upon salt water, not with love, but with dread, their pictures of the sea must needs lack that glow which, whatsoever the subject may be, nothing but a deep sympathy can lend to the artist's hand.

With regard to the modern world, it is curious that the great Italian poets have given us so few first-rate pictures of the sea, considering what sailors the Italians were, and considering the enormous extent of the coast-line of Italy. Herein they have to take rank behind the Portuguese poets, and especially behind Camoens.

It is obvious why the finest poetical pictures of the sea should be English; it is by no means obvious why the finest of these pictures should be by Shakespeare, a midlander full of the Teutonic passion for the "wild-wood," who could never have seen the sea as a child, and who in after-life could scarcely, one would think, have had more personal experience of a sea-storm that comes to him who has crossed the Channel—though, no doubt, a Channel-storm can be fierce enough. In the opening of *The Tempest* the salt sea-wind seems to blow through the dialogue; while in *Pericles* the reader's imagination is taken captive by the very Spirit of the Sea.

As a description of sea-waves lashed by the wind, the famous lines in *Henry IV.*, part II., stand at the head, perhaps, of all poetry as regards the rendering of that mingled delight of the senses, sight and hearing and touch, which can be only experienced during a storm at sea. Coleridge, however, is strong here.

We know how Byron's vivid description of a storm at sea was built upon what Moore calls "a curious research through all the various accounts of shipwrecks upon record." And would it not be interesting to find and piece together all the descriptions of shipwrecks and of storms at sea which may have served as material

for the great marine pictures of Shakespeare?

With regard to Shakespeare's picture of billows lashed by the wind, there seems to be nothing in our poetry to be set in comparison with it until we get to the famous passage in Tennyson's "Elaine":—

As a wild wave in the wide North-sea,
Green-glimmering toward the summit, bears,
with all

Its stormy crests that smoke against the skies,
Down on a bark, and overbears the bark,
And him that helms it,

In a general way, however, it is not so much in painting the open sea whose billows never knew a shore, as in painting the sea within sight of land, that Tennyson is most happy.

Here, as elsewhere, we may always feel confident of one thing: his descriptions are true, as true as those of a naturalist. No generalities about "dark-blue" ocean, "emerald-green" billows, would satisfy him. In describing water, whether fresh or salt, his adjectives of color are never used, in the conventional way of so many poets, for mere ornamentation, but are used for a classification as true as that of the man of science. Just as it would be impossible for him to use the word blue in relation to the emerald-green waters of the Rhine (as so many have done), and impossible for him to use the word "green" in describing the blue waters of the Rhone, so it would be impossible for him to use the word blue in relation to these Northern seas of ours where the in-

tense saltness which, in warmer latitudes, makes the water blue, is constantly being diluted by the meeting of the Arctic ice-water from latitudes above, and so rendered "green-glimmering" as Tennyson paints it.

In the following description of the waves breaking on a "table shore" by moonlight the realism is quite as wonderful as the beauty:—

The crest of some slow arching wave,
Heard in dead night along that table shore,
Drops flat, and after the great waters break
Whitening for half a league, and thin themselves,
Far over sands marbled with moon and cloud,
From less and less to nothing.

I seem to have scarcely begun to treat Tennyson as a Nature-poet, and already my allotted space is filled. No critic who tries to do justice to any true poet can avoid feeling a deep dissatisfaction at the result of his attempt. Therefore I do not hope to satisfy others—I do not hope to satisfy those who will turn to these remarks of mine and read them on account of the beloved name that heads them. Every reader will recall his own favorite bits of Tennysonian description, and be angry at not finding them dwelt upon here. Yet that very injustice toward myself will not be unaccompanied by a deep pleasure; for will it not be another proof of Tennyson's hold upon all readers—another proof of what I have before affirmed, that, in his case, an entire nation loved the man "this side idolatry"?—*Nineteenth Century*.

MEMORIES OF OLD ST. PAUL'S.

BY WILLIAM CONNOR SYDNEY, M.A.

WELL-AUTHENTICATED tradition asserts that a familiar line in Bishop Heber's prize poem of "Palestine," a line in which he so happily describes the rise of King Solomon's temple at Jerusalem, ran originally thus: "Like the green grass, the noiseless fabric grew." The tradition adds that at the suggestion of Sir Walter Scott, to whom Heber read his poem over in manuscript previously to its public recitation in the Sheldonian Theatre at Oxford, this line was erased, and the more felicitous words "Like some tall palm the mystic fabric sprung" were substituted. It mat-

ters little whether we employ the former or the latter of these two similes. None, we suppose, will deny that it is most instructive, to say the least, to compare the growth of a fine building with that of a product of Nature. But the growth of an historical edifice rich with the spoils of time, like St. Paul's Cathedral, resembles closely a venerable oak, which, in the words of a great poet, exhibits—

The solid trunk, the aged stem,
That rears aloft its glorious diadem;
That through long years of battle and of storm
Has striven whole forests round it to reform;

That still through lightning flash and thunder
stroke
 Returns its vital sap and hearts of oak.

Strange as it may sound to some of our readers, it is still incontestably true, that not one Londoner in a thousand knows, or even cares to know, anything concerning the history, be it early or late, of the metropolitan cathedral. Those of a factitious turn of mind will frequently ask a friend from the country, intent on what is commonly termed "doing" the place, that atrocious riddle, "Why is St. Paul's Cathedral like a bird's nest?" in the hope of favoring him, on receiving a "Give it up," with the answer "Because it was built by a Wren;" but there matters generally end, and of the history, the antiquities of the fane, they in general know nothing and care to know nothing.

It would be an interesting task to trace, with the aid of Dean Milman's scholarly monograph, the history of this church in detail; but it would exhaust the limits, not of one, but of many papers. We propose, therefore, in this paper to examine only the outline of its history, and to dwell upon only the most salient parts of that history, which, it is almost superfluous to say, disturbs traditions, recalls grievances, touches prejudices, excites deep feelings, and affects momentous religious interests.

The discovery, some sixty years ago (during the progress of excavations for the foundation of Goldsmiths' Hall), of a stone altar adorned with an effigy of Diana, lends considerable weight to the theory that the hill on which St. Paul's Cathedral stands occupies the site of a temple dedicated to the worship of the great goddess of Ephesus. A camp of the Romans, then a temple of the Saxons, next a cathedral church built by Ethelbert, King of Kent, with the sanction of Sebert, King of the East Angles, next a relapse into Paganism, and then the restoration of the Cathedral by the famous St. Erkenwald—these are the chief points in the history of Paul's Church, from the commencement of its history until the beginning of the seventh century.

Why the cathedral church of London when, in the Anglo-Saxon times, the City became an episcopal see under Mellitus, the companion of Augustine, was dedicated to the Apostle of the Gentiles, antiquaries are not agreed. Very ancient

tradition preserved by the ecclesiastical historians, however, asserts that this island was, at a very early date, visited by St. Paul, who preached the Christian gospel to its inhabitants,* and if so it may probably have led to the association of his name with the first Christian temple in London, but there is no evidence to warrant the conclusion.

Toward the close of the reign of William the Conqueror, St. Paul's Cathedral was razed to the ground by fire. Shortly afterward Manutius, Chaplain and Chancellor to William the First, who occupied the See from 1086 to 1107, began a new fabric, which was not finished, however, until two hundred rolling years had run their course. This structure was completed in 1315, during the reign of Edward II., and despite many additions and subtractions, executed through the long ages which are sometimes styled "the dark ages," stood firm until its fate was sealed by the unparalleled conflagration of 1666.

What was the form of old St. Paul's the second? What were its architectural dimensions? To these questions we can supply ready answers. Referring to the pages of William of Malmesbury's "Chronicle" we see at a glance what its character was. It had a choir, the glory of which surpassed that of Westminster. It had a grand nave of no fewer than twelve bays. It had transepts of five bays each. Moreover, the only cathedral church that could pretend to rival its pier arches was that of Norwich. The nave measured 90 feet in height and 260 feet in length. Beyond this stretched the transept, and the choir, which extended fully 260 feet in length.† The choir vault equalled all the stately height of Westminster. Moreover, bearing in mind that the perspective of this magnificent church terminated in a rose window, which was more exquisite than either of those that now delight the gazing eye in the transepts of Westminster Abbey—bearing also in mind that this window, "richly dight," cast "a dim religious light" through the seven tall graceful lancets which filled up the entire eastern end, the reader can pardon the pride with which the London citi-

* See Short's *History of the Church of England*, c. i.; Bright's *Chapters on English Church History*; Sparrow Simpson's *Chapters in the History of Old St. Paul's*.

† Fergusson's *History of Architecture*, iv. c. ii.

zen of the pre-Reformation epoch regarded the fane. Among the numerous cathedral churches throughout Christendom Paul's had justly the pre-eminence. Eclipse was first, and the rest were—well—nowhere.

Nor was the external appearance of this mighty church unworthy of its internal appearance. The tower rose to a height of 235 feet, on a square with sides that measured as many as 50 feet in length. This square displayed externally three two-light windows, each of which was 60 feet in height. Above these rose another story, which was lighted by a similar range of windows nearly half as high. The joy and pride of the noble structure was the spire, which soared like a tongue of golden flame into the blue heavens above all others.

Thus roughly, but yet, we believe, accurately, have we sketched the general aspect of Old St. Paul's. We have now something to say concerning Paul's Cross, which, as Dean Milman truly says, was "historically part, and an important part, of the cathedral."

Long before this Cross became a magnificent and almost unrivalled rostrum, it had been the rendezvous of the assemblies, or what are sometimes designated the "folk-motes," of the denizens of the City of London.* In later times it was the pulpit orator's paradise.

It was rebuilt by Bishop Kemp, after the Wars of the Roses, and for centuries, by reason of its imposing grandeur and consummate gracefulness, ranked as one of the chief ornaments of London. Its position, according to Dean Milman, was at the north-east corner of the Cathedral, and it is conjectured by this learned writer that it was originally erected, like other crosses, at the entrance of the churchyard, in order to impress upon all comers the need of complying with the salutary practice of praying for the repose of the souls of such persons as lay buried in the ground adjoining.

Paul's Cross was at first the pulpit of London. By degrees it became the pulpit *par excellence* of the Anglican Church. Then it became a power in the land. Thither it was that even in the depths of

the most inclement winters the London populace resorted, to be convinced or persuaded by sermons. What the press is to the London public of to-day, St. Paul's Cross was to the public of the pre-Reformation era. The pulpit was generally open to both sides—to 'the firebrands of both ecclesiastical parties. The pulpit might resound with the cautious theology of Canterbury one day, and with the wildest doctrines of Geneva the next. One sermon might be such as would have been as sweetest music to the ears of Sir Thomas More. Another would be such as Calvin himself would have found scarcely a period to disapprove. In short, Paul's Cross exercised a most extreme, a most powerful, as well as a most prompt empire over the mind of the nation.

It was at Paul's Cross that Cardinal Campeggio was publicly congratulated, and it was there during the seven ensuing years that the question of the divorce of Catherine of Aragon was argued for and against. It was there, when Henry VIII. made his final and irreparable breach with the Vatican, that preachers waxed painful and eloquent in defence of the royal supremacy. It was there that Bishop Gardiner and Robert Barnes thundered against each other over the Sixth Article, set forth by their tyrannical master. It was there, when Edward VI. ascended the throne, that Nicholas Ridley, so soon to suffer martyrdom for the faith once delivered unto the saints, inveighed with all the fury that he could summon to his aid against the worship of pictures, the adoration of saints, and the use of holy water. It was there, when "Bloody Mary" ascended the throne, that a riot once broke out which seriously imperilled the lives of both preacher and hearers. Dr. Gilbert Bourne, the preacher, was inveighing, as a nominee of Queen Mary, against Bishop Ridley. "He preaches damnation; pull him down, pull him down," was the cry which broke at once from a hundred throats. Fortunately Bradford, renowned for the devoutness and sincerity of his Protestantism, appealed to the mob. "Let every soul," said he, quoting the words of St. Paul, "be subject to the higher powers." But the fray did not abate. The obnoxious preacher was dragged by his friends to St. Paul's School, and the mob dispersed only on

* *Annals of St. Paul's Cathedral*, 1869, p. 62; Sparrow Simpson's *Old St. Paul's*, 152-155.

the approach of the mayor.* Such was the ordeal that the preacher at Paul's Cross had sometimes to face. All, during the reigns of Mary and Elizabeth, the discourses of the preachers at Paul's Cross were largely attended, and vigorously applauded, by the motley crowds who assembled—hail, rain or sunshine—to hear them. Paul's Cross stood intact until the reign of the martial Saints, by whom it was demolished. To people so fond of improving all occasions, it might be supposed that the Cross would not have been an eyesore. The Zeal of the Land Busies, the Boanerges Holdforths and the Sergeant Bind-their-Kings-in-Chains, however, called to mind that doctrines which were not to be found either in the pages of the Old or New Testament had constantly been preached at Paul's Cross, and the remembrance of this impelled them to cry "Down with it, down with it even to the ground." When the Restoration came, then came also a desire to re-introduce the Paul's Cross sermon; and whereas this sermon had formerly been preached without the Cathedral, it was now preached within it. In those sermons, which are preached Sunday after Sunday in the evening to large and attentive congregations at the present time, the antiquary may still detect the ring of the old Paul's Cross sermons. Here, as elsewhere, the old order has changed and given place to new.†

We often hear it said in the present day that those who frequent our churches and cathedrals are singularly wanting in a due and becoming reverence for the sacredness of such buildings and their separation from profane uses. But this is by no means peculiar to the age in which we live, and it must be added that in this respect matters in "the good old times" were ten thousand times worse. It was then the custom to hold law courts, fairs, and even markets, within the walls of churches and cathedrals. These structures were the recognized places for eating, drinking, working and sleeping. Plays and interludes were acted within their walls, and priests and people seemed to consider them peculiarly adapted for church ales,

Whitsun ales, and drinking bouts—a state of affairs which contrasted singularly with the apostolic dictum, "Let all things be done decently and in order." It may be doubted, however, whether any public building was more shamefully desecrated in this way than Old St. Paul's. Posterity, or rather that section of it which is accustomed to behold in our cathedral churches a Pharisaical regard for propriety and decorum, may well stand aghast when it reads of St. Paul's in the days of our Tudor sovereigns.

As early as the reign of Edward the Third petty dealers commenced to expose their wares for sale under the walls of the Cathedral, and the more sacred the day was the more active the market was.* Through the nave and through the aisles, even while the choir and clergy were chanting the solemn strains of a penitential litany, the hum of buyers and sellers waxed noisier and noisier. Rag Fair and Petticoat Lane are the only districts of modern London which could at all compare with what in mediæval London was familiarly termed "Paul's Walk," or the "Pervyse of Paul's." The house of prayer became literally, and not figuratively, a house of merchandise and a den of thieves. The money-changers entered the walls and drove out the worshippers. The summits of the pillars, their rich tracery work, and their elegant cornices were the coigns of vantage of pigeons, jackdaws, and birds of every dye and hue. There the London apprentices daily resorted with bows and arrows for the purpose of shooting the birds, and of engaging in games that were suited to any place but the walls of an ancient cathedral. The beautiful and costly painted windows were treated with but scant respect, and the gambols ceased only when the scandal became meritorious for the thunders of excommunication. The Reformation imposed a temporary restriction on the perversion of St. Paul's Church, but when the storm had blown over, and comparative tranquillity had been restored, things went on as before. The metropolitan cathedral became a metropolitan market. To such base uses as it was put to, we do not know where to look for a parallel. While many citizens regarded the church as a fashionable place of resort, others regarded it as

* *Diary of Henry Machyn*, ed. Camden Society; *Foxe's Acts and Monuments*, vi. 41, 392.

† There is a well-executed view of the Cross during sermon time in Wilkinson's *Londina Illustrata*, vol. 1.

* Milman's *Annals*, pp. 83, 124.

a trysting-place of friends, and others again as an exchange for the transaction of business and the collection of news. Advertisements of all kinds, secular and sacred, covered the pillars and the walls of the nave, which were criticised and discussed in the loudest of tones by the passers by. But while the authorities strained at gnats, as so often happens, they swallowed camels. An apprentice who entered the church without first removing his cap, or a gallant who forgot to doff his head-gear, was promptly called to order by the door-keeper; but these functionaries had nothing to say to the wretches, all tattered and torn, who dragged their filthy carcasses out of the scorching summer sun, or the biting winter wind, and lay down to sleep in the presence of worshippers, who might be as clean as a new pin. The painted courtesans found no more attractive promenade for displaying their charms to the best advantage than "Paul's Walk," and never omitted to turn their steps thither when the chimes proclaimed the hour of noon. With the sixteenth century came the Reformation, and though St. Paul's Cathedral felt the influence of that great movement so far as matters of doctrine were concerned, the abuses of which we have spoken flourished as gayly as before. Wherever Reformation extended, it certainly did not extend to the correction of abuses within the Cathedral. The right of way which the public had established was rigidly adhered to, even when that bright occidental star Queen Elizabeth, of most happy memory, was sent to rule and reign over England. Brewers drove their lumbering drays, drawn by clattering teams of heavy horses, through the sacred precincts from north to south and from south to north. Bakers marched to and fro bearing loaves of bread on their heads, and sometimes came in on their carts. Mules, horses, and dogs, went backward and forward, and gloried in the short cut. From time to time attempts were made to suppress these abuses, but all proved abortive, with the exception of the ingress of the four-footed beasts, which in dusty weather raised clouds much resembling those of the summer threshing-floors spoken of in the Book of Daniel.

Queen Elizabeth, scandalized at the profanation of which St. Paul's was the scene, and at the riots which often took place within its hallowed walls, determined

to abate the nuisance. Knowing that fine and imprisonment were insufficient to deter the offenders, she resolved that a pillory should be erected in the churchyard, near the official residence of the Bishop of London. Soon an offender graced this pillory with his presence. A certain lewd fellow of the baser sort, forgetting the respect which was due to the house of prayer, created a disturbance, and was promptly nailed by his ears to the pillory post. The next step which Elizabeth took toward the cleansing of the temple was to issue an enactment against all buying, selling, shooting, bargaining, and chaffering during the time of Divine service. But this only partially removed the evil, for whenever Divine service was not being performed, Paul's Walk was as noisy as ever it had been. There walked those who loved darkness rather than light; neither came to the light lest their deeds might be made manifest. There, though the beasts of the field were excluded, every other abomination was admitted. There went the idle, the splendid, and the gay. There, when everybody else was at the ordinaries, went those who could not afford to pay for a dinner, to dine with Duke Humphrey, who by a popular error was transferred from his tomb in St. Albans Abbey to one that was occupied by a Beauchamp in St. Paul's. Duke Humphrey, while in the flesh, had loved good cheer, and was never so happy as when he was dispensing the honors of the table to all that were desolate and oppressed. There went richly attired cavaliers, and there went the light-fingered fraternity with an eye and a finger to enriching themselves at other people's expense. There went the painted women, and there went those who constituted the prey of the painted women. There went the merchants who talked of nothing but stocks. There went the gulls to read swindling advertisements, and there went those who decoyed the gulls, and concocted the swindling advertisements. There went the hangers-on by the side of those on whom they hung, flattering them with highly spiced compliments by the hour together. Contemporary literature bears its testimony to the truth of our remarks. Rare Ben Jonson fixes the scene of the third act of his comedy, "Every Man out of his Humor," in Paul's Walk. All the insolence, rascality, and immodesty of the

resort is limned in this play. Shift, "a threadbare shark," who is the knave of the comedy, posts bills on the walls of the Cathedral without his being noticed. The bills reflect very little credit on the poster, and the first of them runs to the following effect: "If there be any lady or gentleman of good carriage that is desirous to entertain, to her private uses, a young, straight, and upright gentleman, of the age of five or six and twenty at the most, who can serve in the nature of a gentleman usher, and hath little legs of purpose, and a black satin suit of his own to go before her in; which suit for the more sweetening now lies in lavender; and can hide his face with her fan, if need require; or sit in the cold at the stairfoot for her, as well as another gentleman: let her subscribe her name and place, and diligent respect shall be given." And the second is like unto it.

Thomas Dekker, the dramatist, was another writer who took up his parable against Paul's Walk. Dekker's curious pamphlet, entitled "The Gull's Hornbook," published in 1609, contains many amusing illustrations of the manners and customs of the English people in the days of our Elizabeth and our James. The writer, who assumes the character of a guide to the fashionable follies of the town, but, really, in order to expose them, enlarges as follows upon "How a gallant should behave himself in Paul's Walks": "Your Mediterranean isle (*i.e.*, the middle aisle of St. Paul's) is the only gallery wherein the pictures of all your true, fashionable, and complementall gulls are, and ought to be, hung up. . . . Be circumspect and wary what pillar you come in at; and take heed, in any case, as you love the reputation of your honor, that you avoid the serving man's log, and approach not within five fathom of that pillar; but bend your course directly in the middle line, that the whole body of the church may appear to be yours, where, in view of all, you may publish your suit in what manner you affect most, either with the slide of your cloak from one shoulder; and then you must, as 'twere in anger, suddenly snatch at the middle of the inside, if it be taffeta at the least; and so by that means your costly lining is betrayed, or else by the pretty advantage of compliment. But one note, by the way, do I specially woo you to, the neglect of which makes many of our

gallants cheap and ordinary, that by no means you be seen above four turns; but in the fifth make yourself away, either in some of the seamster's shops, the new tobacco office, or amongst the booksellers, where, if you cannot read, exercise your smoke, and inquire who has writ against this divine weed, etc. For this withdrawing yourself a little will much benefit your suit. . . . if by chance you either encounter or aloof off, throw your inquisitive eye upon any knight or squire, being your familiar, salute him, not by his name of Sir Such-a-one, or so; but call him Ned or Jack, etc. This will set off your estimation with great men; and if, though there be a dozen companies between you 'tis the better, he call aloud to you, for that is most genteel, to know where he shall find you at two o'clock, tell him at such an ordinary, or such; and be sure to name those that are dearest, and whither none but your gallants resort. After dinner you may appear again, having translated yourself out of your English cloth cloak into a light Turkey program; and then be seen for a turn or two, to correct your teeth with some quill or silver instrument, and to cleanse your gums with a wrought handkerchief. . . . Now, if you chance to be a gallant not much crossed among citizens; that is, a gallant in the mercer's books, exalted for satins and velvets, your Paul's Walk is your only refuge; the Duke's tomb is a sanctuary, and will keep you alive from worms, and land rats that long to be feeding on your carcass; there you may spend your legs in winter a whole afternoon; converse, plot, laugh, and talk anything; jest at your creditor, even to his face; and, in the evening, even by lamplight, steal out; and so cozen a whole covey of abominable catchpoles."

Other writers beside Ben Jonson and Dekker advert to what, for the want of a more expressive term, we may call the "humors" of Paul's Walk. Thomas Nash, in his "Supplication of Piers Pen-niesse to the Devil," a satirical poem published in 1592, says, "Marvell how the masterlesse men that set up their bills in Paul's for services, and such as paste up their papers on every post for arithmetic and writing scholes, escape eternitie amongst them." So, again, Richard Corbett, the witty Bishop of Norwich, in his "Elegy" on Dr. Ravis, Bishop of

London, quoted by Archdeacon Dares in his "Glossary," has the following lines :

When I pass Paul's, and travel in the walk
Where all our Brittain sinners swear and talk,
Old hairy ruffins, bankrupts, soothsayers,
And youth whose couzenage is as old as theirs ;
And there behold the body of my lord
Trod under foot by vice, which he abhorr'd,
It wounded me.

Shakespeare alludes to the fact that business of a secular character was transacted in Paul's when he causes a character in his tragedy of "Richard the Third" to say—

Here is the indictment of the good Lord Hastings,
Which in a set hand fairly is engross'd,
That it may be to-day read o'er in Paul's.

But perhaps the most curious illustration of the manners and morals of the walkers in St. Paul's during the sixteenth century is furnished by the learned John Earle in his curious work entitled the "Microcosmography," which was published about 1628. Earle was a priest of the English church, and died in 1665 Bishop of Salisbury, having been appointed to that See for his loyalty after the Restoration. "Paul's Walk," he says, "is the land's epitome, as you may call it the lesser isle of Great Britain. It is more than this. The whole world's map, which you may here discern in its perfectest motion, justling and turning. It is a heap of stones and men, with a vast confusion of languages ; and were the steeple not sanctified nothing like Babel. The noise in it is like that of bees, a strange hum, mixed of walking tongues and feet ; it is a kind of still roar or loud whisper. It is the great exchange of all discourse, and no business whatsoever but is here stirring and afoot. It is the synod of all parties politick, jointed and laid together, in most serious position, and they are not half so busy at the Parliament. . . . It is the market of young lecturers, whom you may cheapen here at all rates and sizes. It is the general mint of all famous lies, which are here, like the legends of Popery, first coined and stamped in the church. All inventions are emptied here, and not a few pockets. The best sign of a temple in it is, that it is the thieves' sanctuary, which rob more safely in a crowd than a wilderness, while every searcher is a bush to hide them. It is the other expense of the day after plays, tav-

erns, and men have still some oaths left to swear here. . . . The visitants are all men without exceptions, but the principal inhabitants and possessors are stale knights and captains out of service ; men of long rapiers and breeches, which after all turn merchants here, and traffick for news. Some make it a preface to their dinner, and travel for a stomach ; but thriftier men make it their ordinary, and board here very cheap. Of all such places it is least haunted with hobgoblins, for if a ghost would walk more, he could not."* Thus it will be seen that St. Paul's Cathedral, in the olden time—those times which certain people are everlastingly extolling at the expense of the present—was pervaded by every species of profanation, by the basest of words as well as by the basest of deeds.

During the second half of the sixteenth century fire, neglect, violence, decay, and a variety of other causes wrought untold havoc on the once peerless fabric of Old St. Paul's. In due course Elizabeth died, and James the First ascended the throne. Seeing the melancholy state of dilapidation into which the Cathedral had fallen, James appointed a commission to inquire into its revenues, and subsequently headed a subscription list for its repair. But subscriptions only dribbled in, and of the total sum that was needed—twenty-two thousand pounds odd—only a mite was raised. Under Charles the First matters slightly mended. Laud was appointed Bishop of London, and instantly threw himself with heart and soul into the projects for the restoration of the Cathedral, availing himself of the talents of Inigo Jones, who was now in the zenith of his fame. Subscriptions, owing to the energy of Laud, poured in from far and near. Jones went with a mind to work, and the consequence was that he disfigured what he ought to have adorned. His performances were nothing more nor less than those of a ruthless reformer. The west entrance of the church he faced with a cold and formal Roman portico, and did his best to obliterate every trace of the former Gothic beauties which it had once displayed in rich abundance. He was like those Italian artists who, in painting the heroes of classical antiquity, invariably invested them with the fashion-

* Bishop Earle's *Microcosmography*, ed. Bliss, 1811, p. 117.

able garb of the eighteenth century. "In the restoration of St. Paul's," wrote Horace Walpole, "Inigo made two capital faults. He first renewed the sides with very bad Gothic, and then added a Roman portico, magnificent and beautiful indeed, but which had no affinity with the ancient parts that remained, and made the Gothic appear ten times heavier." On the internal embellishment of the Cathedral a wealthy London citizen, who had made a large fortune as a Turkey merchant, expended the sum of ten thousand pounds. Among the other contributors was Sir Paul Pindar, sometime Ambassador at Constantinople, who, as Dugdale says, "is especially to be remembered, who, having at his own charge first repaired that goodly partition made at the west end of the quire, adorning the part thereof outward with four pillars of black marble, and statues of the Saxon kings who had been founders or benefactors to the church, beautified the inner part thereof with figures of angels, and all the wainscot was of excellent carving—viz., of cherubims and other images richly gilded; adding costly suits of hangings for the upper end thereof, and afterward bestowed £4000 in repairing of the Cross."* So the church was restored after a fashion, and gave satisfaction to all who beheld it. Laud, as may be supposed, was assailed during the progress of the work; but Laud was not a man to be deterred from any purpose which he was bent on carrying through, by popular clamor. Edmund Waller, the Court poet, celebrated the triumph of the restorer in his verse, and among other pretty things declared that—
Nor aught which Sheba's wondering Queen
beheld,

Amongst the work of Solomon, excell'd
This shape and building, emblems of a heart
Large both in magnanimity and art.†

At the downfall of Monarchy St. Paul's, in common with all other important ecclesiastical edifices in London, entered on a period of neglect, defilement, and wanton mischief. The Saints committed untold depredations in their zeal for the extermination of the worship of Baal and the rags of Popery. Dean Milman quotes a contemporary rumor that Cromwell had it in intention to hand over the Cathedral to

the Jews, for a synagogue—which may or may not be correct. The east end was set apart for a congregation of psalm-singing knaves, whose spiritual necessities, if indeed they had any, which we very much doubt, were supplied by the anti-dean Cornelius Burgess, a tub-thumping rascal, who was never so happy as when banging a cushion in a conventicle, and mouthing his scraps of bad Hebrew before the members of the House of Commons. Two fine statues of kings which stood on Inigo Jones's portico were dragged down and dashed to pieces by these wretched fanatics, who were content with nothing but what was hammered on their own anvil. The portico itself was let out for booths to hucksters and to seamstresses. The interior of the Cathedral was converted into a cavalry barrack, which Sir William Dugdale, pained and grieved, as he well might be, saw with his own eyes. Horses littered the pavement, and soldiers made seats of the tombs. The eastern part of the choir was partitioned off by a wall, and converted into a preaching shop for Dr. Burgess, the approach to it being made through the uppermost window on the north side eastward.* "Since my last," wrote Evelyn, in his "Diary," under date of December 18, 1648, "soldiers have marched into the City. . . . They have garrisoned Blackfriars (which likewise they have fortified with artillery); Paul's Church, which with London House they have made stables for their horses, making plentiful fires with the seats." Right odious, as may be supposed, were Laud's scaffoldings in the eyes of the Saints, and down they came. How durable they must have been is evident from Dugdale, who says that saw-pits were dug in the Cathedral itself for the purpose of cutting up the timbers. That the choir stalls and the organ loft should both have gone the same way was only to be supposed. "That sacred Temple dedicated to S. Paul, and heretofore set apart and kept in all possible decency for the service and worship of God, they have now converted into a filthy stable and filled it with hay and horses," etc. This passage occurs in the issue of the "Mercurius Eleuticus," December, 1648, a contemporary newspaper, which was secretly printed at a press in the Cavalier camp. There is

* Dugdale's *History of St. Paul's*, ed. Ellis, 1818, pp. 107-108.

† Works.

* Sparrow Simpson's *Old St. Paul's*, p. 267.

another passage in a later number of the same sheet, which runs thus: "The saints in Paul's were the last weeks teaching their horses to ride up the great steps that lead into the quire, where as they desided they might perhaps learne to chaunt an antheime; but one of them fell and broke both his leg and the neck of his rider, which hath spoiled his chaunting, for he was buried on Saturday night last. A just judgment of God on such a prophane and sacrilegious wretch." We may mention one other instance of the profanation of St. Paul's during the interregnum. According to a contemporary pamphlet, cited by Dr. Sparrow Simpson, the present learned precentor of St. Paul's, in his volume of gleanings, a young foal that was born in the church was submitted to a mock baptismal ceremony by Paul Hobson's soldiers. The animal was actually sprinkled by these profane wretches in the name of the Trinity, and because it was a bald colt, was dubbed "Baal Rex." Could profanity descend lower?

The gloomy reign of the sectaries came to an end in 1660, and that of the old monarchy was re-established. It was then that what the witty Dr. South calls "the grand epoch of falsehood as well as debauchery" set in. St. Paul's now entered on a period of repose. But it was a doomed structure. In 1666 London was visited by an unparalleled fire, in which the once fair temple was completely engulfed, and, like the baseless fabric of a vision, left not a wrack behind it. This is the saddest portion of the annals of Old St. Paul's. It is emphatically what the poet has well termed—

Only a scene
Of degradation, imbecility,
The record of disgraces best forgotten;
A sullen page in human chronicles
Fit to erase.

And the havoc that the Great Fire did, not only on St. Paul's, but in all the regions round about, is it not written in the various chronicles of Evelyn, of Pepys, and of Taswell? The boys of Westminster worked, as only boys could work, in doing what in them lay to arrest the progress of the flames; and the honor has always been given to them for having been the most assistance in averting the fire from the church of St. Dunstan-in-the-East. Bishop Burnet, who was an eye-witness of the fire, says that he never

recollected hearing that a single person was burned or trodden to death while the Great Fire of 1666 was raging. This statement, however, is not quite correct, seeing that Dr. William Taswell, who, as a Westminster scholar was also an eye-witness of the fire, makes the following remark in an account which he wrote of this terrible disaster, in his autobiography: "I forgot to mention that near the east end of St. Paul's a human body presented itself to me, parched up, as it were, with the flames, white as to skin, meagre as to flesh, yellow as to color. This was an old decrepid woman who fled here for safety, imagining the flames would not have reached her there; her clothes were burned and every limb reduced to a coal. In my way home I saw several engines, which were bringing up to its assistance, all on fire, and those engaged with them escaping with all eagerness from the flames which spread instantaneous, almost like a wildfire, and at last, accoutred with my sword and helmet, I traversed the torrid zone back again."* We may add that Dr. Taswell relates that the papers from the books which were in the church of St. Faith's, by Old St. Paul's, were carried by the wind as far as Eton, and that many of the students at Oxford at the same time observed the rays of the sun tinged with an unusual tint of redness, and a thickness and heaviness pervading the atmosphere. What impressed the fire more particularly on Taswell's recollection was the fact that some officious persons, under pretext of assisting his father, burned and plundered the house to the extent of forty pounds.† Dryden, in his poem the "Annus Mirabilis," did not omit a reference to the dreadful fate which had overtaken the metropolitan cathedral, upon which as a boy and as a man resident in London, he had, doubtless, gazed many a time and oft in wrapt admiration. Hear what he says in the two following verses, which we venture to quote from a poem, written before his apostasy from the Church of his baptism:—

Nor could thy fabric Paul's defend thee long,
Though thou wert sacred to thy Maker's
praise;
Though made immortal by a poet's song,
And poets' songs the Theban walls could
raise.

* Diary of Dr. W. Taswell, ed. G. P. Elliott, Camden Society, 1853, p. 13.

† *Ibid.* p. 14.

The daring flames peeped in, and saw from far
 The awful beauties of thy sacred quire ;
 But since it was profaned by civil war,
 Heaven thought it fit to have it purged by
 fire.*

Dr. William Sancroft, subsequently one of the nonjuring divines, was Dean of St. Paul's at the time of the fire, and the see of London was occupied by Humphrey Henchman. Bishop Henchman had evinced the liveliest interest in the restoration of St. Paul's, and now made every exertion toward the rebuilding. Among the "Harleian Manuscripts" there are a number of autograph letters from Henchman to Dean Sancroft, the greater part of which relate to the proposed repairs and alterations at Old St. Paul's. Henchman, unfortunately, did not live to see the completion of the temple, as he departed this life in 1675, and was buried in the south aisle of Fulham parish church. He took but little part in the affairs of State ; but, according to Isaac Walton, "no one mentioned him without some veneration for his life and excellent learning."

The great fire of London not only effaced the mediæval history of Old St. Paul's, but did away from the eyes of posterity with all the havoc and wanton mischief which the destructive fingers of the Saints had succeeded in accomplishing. Perhaps it was as well. How many beautiful temples are there in this our land before which the pious antiquary is tempted to emulate the example of Sir Ralph the Rover, in Southey's well-known ballad "The Inchcape Rock," who tore his hair and cursed himself in wild despair ?

Here we have reached the bounds beyond which we do not intend to pass. Old St. Paul's has been our theme, and to Old St. Paul's we intend to keep. In conclusion, perhaps we may be permitted to observe that, despite the wear and tear that Old St. Paul's sustained in the long interval between its erection and its fall ; despite, too, the profanation of which it was the scene, and the unseemly levity which the sons of men carried into its hal-

lowed precincts, the fane, there is every reason to believe, was used, if not always used, as it should have been. The gorgeous and imposing ceremonial of Mediæval Christendom has often constituted the theme of the sneers and gibes of those whose narrow, meddling intellects misshape the hidden forms of thing, as Wordsworth says ; but it should never be forgotten, in common fairness, that in the Middle Ages, as much as in the present day, a stately Gothic cathedral was a vision of a more beautiful and brighter world to multitudes of the poor ; and to many who were in sorrow, need, sickness, and adversity, Religion was the one romance of the poor. It was a vision which they could have without money and without price, which lifted them far above the dull, harsh, crabbed, squalid region of their dreary and monotonous lives. The beautiful image which was employed by an early Northumbrian Saint, of human life, found its exposition in many a hallowed fane. "The bird," he said, "flies into the lighted hall out of night, enjoys the brightness and warmth for a moment, and then flies out again into the night." It was in the glorious sanctuary, in the great congregation, where heart beat in unison with heart, where voice united with voice to swell the strain of thanksgiving, and the noise of such as kept holyday, that common beliefs and common experiences drew the children of men, weary with toil and carking care, into closer, dearer, tenderer relationships of sympathy and hope. Whenever we survey some grand old Gothic cathedral we are insensibly reminded of an eloquent observation which occurs in one of the great works of Dr. Lecky : "The mediæval cathedral which, mellowed but not impaired by time, still gazes on us in its deathless beauty through the centuries of the past." These words are, in a pre-eminent degree, words of truth and wisdom. They are as applicable to a cathedral which still bids defiance to the ravages of time and decay as they are to one which, like Old St. Paul's, exists only in the pages of history.—*Gentleman's Magazine*.

* *Annus Mirabilis*, 1665-66.

FOREIGN LITERARY NOTES.

THE "Life of Dr. John Brown," author of 'Rab and His Friends,' which Dr. Peddie, of Edinburgh, has written, and which Messrs. Percival will publish, is now almost ready. Dr. Peddie, who was not only a contemporary but a lifelong friend of Dr. Brown, has chosen, by quotations from the latter's published papers and private correspondence and from varied reminiscences, to make him to a large extent his own biographer. Sir Theodore Martin and Sir Douglas Maclagan are among those who have furnished letters. The book will have for a frontispiece a portrait of "Dr. John," and will also contain several reproductions from his drawings.

PROFESSOR A. SCHROER, of Freiburg, in Breisgau, has been working at the British Museum on the second and concluding part of his edition of Percy's "Reliques," the first part of which appeared in 1889. The original edition of 1765 is followed in the text; and it is to be accompanied by various readings from the other editions published in Bishop Percy's lifetime. There is also to be an introduction, and indices giving much literary information. The book will be dedicated to Professor Child. Felber, of Berlin, is the publisher.

AN interesting series of hitherto unpublished letters of Coleridge, edited by his grandson and copiously illustrated, is now appearing from week to week in the *Illustrated London News*. Mr. Dykes Campbell's new edition of Coleridge's poems has been issued by Messrs. Macmillan.

THE publication of Mr. Wilfrid Ward's book on "William George Ward and the Catholic Revival" has been postponed in order to include some important correspondence between his father and Cardinal Newman, which has only recently come into his hands.

ANOTHER posthumous work of Canon Liddon's, his explanatory analysis of St. Paul's Epistle to the Romans, is to be issued presently by Messrs. Longman. The same firm will publish Cardinal Newman's volume of meditations and some sermons by the late Bishop Oxenden.

Mrs. Lewis writes from Cambridge that the palimpsest of old Syriac gospels which, it may be remembered, she discovered and photographed at the convent of St. Catherine on Mount Sinai in February, 1892, has been trans-

cribed, and turns out to be of a type allied to the Curetonian, and we have now

"a text of all the four Gospels, complete with the exception of some eight pages. An edition will be given to the public with as little delay as possible. Our visit this year to the convent library has been very successful. The monks at once placed the palimpsest in my hands, so that no time was lost by our friends in transcribing it during a forty days' stay. I have collated a splendid copy of the so-called 'Jerusalem Lectionary,' also found by me in 1892, with the edition published by Lagarde from the Vatican ms., and also another copy, equally fine, found by Mr. Rendel Harris in February last. My sister, by special permission of the archbishop, has made a catalogue of all the Arabic mss. in the library. and I, with Mr. Harris's help, have compiled a list of the Syriac ones."—*Athenæum*.

THE new edition in a smaller form of Mr. Freeman's well-known first volume on the "History of Federal Government," dealing mainly with the Greek federations, will be issued immediately by Messrs. Macmillan & Co. It contains a chapter on the Italian federations which was found among the author's mss. Mr. J. B. Bury has revised and annotated the volume.

MR. JOHN ADDINGTON SYMONDS, the well-known literary critic and the historian of the Italian Renaissance, died on Wednesday, April 19th, at Rome, after a two days' attack of pneumonia. John Addington Symonds, who was educated at Harrow and Balliol, early showed his bent toward literature; he had a distinguished university career, which was crowned by a fellowship at Magdalen. He won the University English Essay, the subject being "The Renaissance;" and in his case, as in many others, the fact of obtaining the prize did much to fix the direction of his studies for life. His first book was "An Introduction to the Study of Dante," and from Dante he went on to steep himself in the Italian and Latin writings of Petrarch, Boccaccio, the humanists and poets of the fifteenth and sixteenth centuries, and their successors. His "History of the Renaissance in Italy," in five volumes, with the two subsequent and supplementary volumes on "The Catholic Reaction," were his most ambitious performance, and that by which he would have chiefly wished himself to be judged. Mr. Symonds was a student also of the period when English literature was most affected by Italy, and his large volume

on "Shakespeare's Predecessors in the English Drama" (1884) is a clear and effectively written *résumé* of the best that is known on the subject. Much the same may be said of his small monographs on Sir Philip Sidney and on Shelley. As a writer of original verse he was musical, reflective, and often interesting. But as a translator, whether of verse or prose, he must take a far higher rank than this; he has produced the best existing rendering of Michelangelo's profoundly touching poetry, and the only possible English versions of two very different books—Cellini's "Autobiography" and Count Carlo Gozzi's "Mémoires." The former is, in Italian, a classic, and is, of course, well known through a score of translations; the latter was for practical purposes a discovery, and Mr. Symonds ventured upon what the ordinary English reader finds to be quite new ground in his version of the count's delightful history of his experiences in eighteenth-century Venice. Perhaps we should not be far wrong in prophesying that these excellent renderings of two Italian masterpieces will do as much as any of his volumes to keep Mr. Symonds's name alive in future days.—*Public Opinion*.

PROFESSOR W. LÜBKE, the well-known compiler of popular books about art, is dead, aged sixty-seven years. The most familiar of his works to our readers is probably the "History of Art," translated by the late Miss F. E. Bunnett, which we reviewed in 1868. He was born at Dortmund, and was a professor of the history of architecture at Berlin, and then of the history of art generally at Zurich, Stuttgart, and Karlsruhe successively; in the last post he died. He was one of the most useful, and by no means the most pretentious, of German writers on art.

THE tenth and final volume of the new edition of "Chambers's Encyclopædia" has now been issued, and thus the work is completed within less than five years of the publication of the first instalment. In an "editorial note," which is itself a model of good sense and good taste, it is stated that "the publishers and editor are confident that, whether regard be had to fulness, completeness, accuracy, proportion, systematic arrangement, or literary form, it greatly surpasses the former edition, and is the best book of its scope and kind extant." This opinion will be absolutely endorsed by all who have taken a note of the various volumes of the new edition as they have come out. "Chambers's

Encyclopædia" is not so colossal an enterprise as the "Encyclopædia Britannica," but it is at least as comprehensive, and as emphatically the work of specialists, while it is much handier for purposes of consultation. Of the tenth and final volume, it is perhaps enough to say that, as regards both special treatises on peculiarly important subjects and minute details on smaller matters, it will be found quite the equal of its predecessors. In biographies, including in many cases literary estimates, it is exceptionally strong. Among these may be mentioned Mr. Austin Dobson's "Horace Walpole," Mr. Walter Whyte's "Swinburne," Mr. Thomas Davidson's "Jeremy Taylor," and Professor Palgrave's almost too elaborate "Tennyson" and "Wordsworth." The scientific, technical, and geographical articles may also be mentioned as being of conspicuous merit and lucidity. One of the great charms of this work is that, where necessary, the writers give different sides of disputed questions. Thus, it is delightful to find Sir Wilfrid Lawson, in his able article on "Temperance," bringing forward, almost with Mr. Sydney Buxton's method and precision, the leading objections to the legislation of which he is the foremost champion.—*Spectator*.

THE Hegelian philosopher and poet, Dr. Karl Werder, born at Berlin in 1806, died in his native city on April 10th. Professor Werder was chiefly famous for his lectures on Shakespeare, Lessing, and Schiller. He also made for himself a name in the Fatherland as a dramatist by a tragedy "Columbus," in two parts, the first part of which was acted as far back as 1847, in the presence of Frederick William IV. and a select audience. A few months ago a fragment of the drama was performed at Berlin in commemoration of the discovery of America.

"THE Life of Mr. Ruskin," by Mr. W. G. Collingwood, which Messrs. Methuen will publish, will contain several interesting letters from Carlyle and Browning, and a chief feature will be a full account of the evolution of Mr. Ruskin's theories, artistic and economic. Several hitherto unpublished sketches by Mr. Ruskin are reproduced, and probably the most interesting among many portraits will be a water-color portrait of Mr. Ruskin by himself. All the large-paper copies were sold in advance some time since. Messrs. Houghton, Mifflin & Co. have secured the American copyright.

PROFESSOR MAX MÜLLER has felt it necessary to explain why he has chosen for his final vol-

ume of Gifford Lectures, delivered before the University of Glasgow, the title of "Theosophy or Psychological Religion." It seemed to him, he says, that the venerable name of Theosophy, so well known among early Christian thinkers as expressing the highest knowledge of God within the reach of the human mind, has of late been so misappropriated that it was high time to restore it to its proper function. "It should [he adds] be known once for all that one may call one's self a Theosophist without being suspected of believing in spirit-rappings, table-turnings, or any other occult sciences and black arts."

"SCOTTISH Ballad Poetry," the new volume of the "Abbotsford Series of Scottish Poets," is to contain fifty-eight of the most famous of the ballads of Scotland—humorous and historic as well as tragic and romantic. Each has been printed without change from the collection in which it appears in most perfect form, and each has been furnished with an introductory note setting forth what is known of the ballad's bibliography, history, and origin. The volume will be considerably larger than any of the series yet issued.

MESSRS. SWAN, SONNENSCHN & Co. will shortly publish a work by Dr. Edward Berdoe, entitled "The Healing Art: a Popular History of the Origin and Growth of Medicine in all Ages and Countries." A novel feature will be the chapters on medicine from the anthropological point of view, savage theories of disease and treatment, medical superstitions, charms and amulets.

THE tenth and last volume of Mr. Spencer's "Synthetic Philosophy" is through the press, and will be issued early next week. This is the second volume of "The Principles of Ethics," in which, along with Justice previously published, there are now included two new parts on Negative and Positive Beneficence. For the convenience of those who already have copies of Justice, these two new parts will shortly be issued together as a separately bound volume. Mr. Spencer has not finished, however; for there still remains to be filled up the gap left in "The Principles of Sociology."

STATISTICS CONCERNING THE DRAMA OF THE DAY.—To be a successful playwright, in A.D. 1893, is to enjoy the income of a Lord Chancellor, wield the power of a Lord Chamberlain, and dispense patronage like a Premier, says a late number of *Wit and Wisdom*. Goldsmith got but £1000 from "She Stoops to Con-

quer," a farce which drew the town as "Our Boys" did a century later. Lord Lytton was luckier. His "Lady of Lyons"—with the exception of "Hamlet," the most popular play ever written—his "Richelieu," and "Money," brought a fortune, but a fortune which, compared with that of modern men, must be accounted little. After Bulwer Lytton's time the drama fell on evil days. Maddison Morton's farces sold for a five-pound note. Buckstone wrote dramas for £30. A prize of £100, offered for the copyright of a play on nautical lines, was sufficient to induce scores of capable writers to compete. Tom Taylor, with some forty or fifty plays to his credit, and many of them highly popular ones, "Ticket-of-Leave Man," "Twixt Axe and Crown," "To Parents and Guardians" among the number, left no such fortune behind him as Anthony Trollope, with his £60,000, had delved from the iron-bound soil of literature proper. Nor was it until comparatively recent days that the author began to squeeze from the manager his pecuniary and artistic dues.

To Mr. W. S. Gilbert is given the credit of insisting on the author's paramount importance. His income of £12,000 a year from the Savoy Theatre alone, during the period of the famous triumvirate, as disclosed in the legal dispute between Mr. D'Oyly Carte and himself, is but a fraction of his earnings. When Miss Mary Anderson was acting in "Tragedy and Comedy" and "Pygmalion and Galatea" at the Lyceum, no less than four plays of his were running simultaneously in London alone, to an estimated aggregate of £800 a night. Upon these receipts a 15 per cent royalty yields £120 a night for the lucky author, and the programme held the various bills for many months. "Pygmalion and Galatea" is reckoned, indeed, the most valuable literary property in the world, its estimated earnings exceeding £40,000.

H. J. Byron, as stated by Mr. Thorne and Mr. David James, received £30 a week for "Our Boys," which ran on end 1400 nights—a total of £7000, exclusive of provincial fees. Had the arrangement been on the royalty system, the £7000 would have approached £20,000. Mr. George R. Sims, after many unsuccessful attempts to place his "Lights o' London" on the metropolitan stage, got Mr. Wilson Barrett to accept it, and immediately stepped into a weekly income of £150, which continued for the best part of a year. After the run of "The Silver King," the net profits were found to exceed £33,000, which sum was divided into thirds among the manager, Mr.

Wilson Barrett, and the joint authors, Mr. Henry Herman and Mr. H. A. Jones. Melodrama is the great Tom Tiddler's ground, Mr. Henry Pettitt having won—and, it is said, kept—a fortune of a quarter of a million by his shrewd labor on this soil, and Mr. Grundy having confessed to a happy jump within twelve months, from an income of £700 to one exceeding £5000 by simply turning from the writing of "Glasses of Fashion" and "Mammons" and "Pompadours" to that of "Bells of Hazlemere" and "Village Priests," though one pure comedy, at least—"A Pair of Spectacles"—brought him magnificent rewards, both artistic and monetary. Mrs. Burnett received for her "Little Lord Fauntleroy" some £12,000 from every source.—*Pall Mall Gazette*.

THE latest of the Elizabethan poets to be unearthed is William Basse. That he should have remained so long in obscurity is a cause for some surprise. The lines he wrote on Shakespeare are among the noblest tributes to the great dramatist that were paid by any contemporary. They are included in Ingleby's "Shakespeare's Century of Praise," and are known to most Shakespearian students.

They begin thus :

Renowned Spenser lye a thought more nye
To learned Chaucer, and rare Beaumont lye
A little neerer Spenser, to make roome
For Shakespeare in your threefold, fowerfold
Tombe,

They are quoted from a Lansdowne MS., temp. James I., and are by a curious and untoward accident—untoward in so far as Basse is concerned—included in the 1633 edition of the Poems of Donne. A gratifying tribute to Basse is paid by Isaac Walton, who, in the "Compleat Angler," after quoting a song in praise of angling, continues : "I'll promise you I'll sing a song that was lately made at my request by Mr. William Basse, one that has made the choice songs of the 'Hunter in his Career,' and of 'Tom of Bedlam,' and many others of note." Basse was a prolific writer, and, in addition to the three volumes and the complimentary addresses to other poets which he published, left in MS. two collections of poetry, the greater portion of which—some portion being now untraceable—is included in an edition lately published. That Basse was a great or an inspired poet may not be affirmed. He is indeed a little hide-bound, and his rhymes are sometimes curiously defective. He is, however, an observer of nature, and his pastorals are not without merit. There is a disposition to attribute to

him "Brittain's Ida," which has been assigned wrongly to Spenser. Basse's poems now appear in a very goodly volume, and are carefully annotated and edited by Mr. R. Warwick Bond. For past neglect, accordingly, ample compensation is made.—*Gentleman's Magazine*.

MISCELLANY.

"CAXTON" HUNTING.—The heart of a violinist may be thrown into rapture by the discovery, in some out-of-the-way corner, of a genuine Stradivarius. But the rapture of the violinist is nothing compared with the ecstasy a bibliophile experiences when he finds an unknown book printed by Caxton and embedded in the dust of a forsaken college library. No wonder, for the value of Caxtons has increased marvellously during recent years. Not long ago, a book which came from the press of England's first printer fetched £3000. Although there are a considerable number of his prints about, not a single copy of many of his publications can be found. Editions, however, which have been despaired of by the hunter have turned up in the most unexpected manner. The late William Blades used to tell how he spent the time during a service in searching the library at the French Protestant Church, St. Martin's-le-Grand. As with dusty face and grimed hands he was departing, a filthy bit of parchment in a pigeon-hole close to the fire attracted his attention by the appearance it presented of an illuminated initial. He turned it aside with his foot ; and beneath was an old folio, the first sight of which made his heart beat. It seemed impossible, and yet it was a genuine Caxton, the second edition of Chaucer's "Canterbury Tales," with numerous woodcuts. But how shorn of its beauty ! True, original binding of nearly four centuries ago was there ; but out of the three hundred and twelve leaves originally enclosed within the boards, scarcely two hundred were left, and they were torn and dirty. However, said Blades, it was a good hour's work ; and the precious relic, each leaf of which was worth a guinea, was saved from lighting any more vestry fires.

It is in this way a large proportion of the known Caxtons have been unearthed. Probably, after years of searching, the long-sought-for book is obtained quite accidentally. Richard Heber, the sale of whose libraries in Paris, Brussels, London, Antwerp, Louvain, Leyden, and at the Hague occupied two hundred and two days, spent a large part of his life looking for a print by Colard Mansion, the first printer

in Bruges. His efforts were not fruitful; but his brother, who was Bishop of Calcutta, managed to purchase a fine copy from a native on the banks of the Ganges. Caxton's "Fifteen Oes," now in the British Museum, lay for centuries in the dust of an old country-house. Henry Bradshaw of Cambridge, who was one of the most indefatigable of book-hunters, found an *Indulgence*, printed by Caxton, pasted inside a book in the Bedford town library. There are several Caxtons in the Baptist Chapel at Bristol; and the famous vellum Caxton was found in a Roman Catholic seminary. Second-hand dealers are nowadays pretty sharp; but it is within the range of possibility to pick up a Caxton at a bookstall. Kind-hearted old Osborne, when he bought the Harleian collection, found he had fifty-six Caxtons at one time in his shop. To get rid of them, without any regard as to their rarity, he sold them at a fixed price—all folios twenty-one shillings; all quartos fifteen shillings. Sir Walter Scott makes Monkbarrow tell the story of how "Snuffy Davie"—who was David Wilson, a once well-known bookseller—bought for twopence from a stall in Holland "The Game of Chess" (1474), which was the first book ever printed in England. It was afterward sold for one hundred and seventy pounds. Some years ago, in a cathedral town, a second-hand bookseller exposed a copy of Caxton's *Statutes* affixing a card, "Only 2s. 6d." For some time it lay unnoticed. One day, however, the attention of a gentleman was attracted, and he, knowing something about early printing, soon became the owner of the book. He valued it more than its weight in bank-notes.

Is it possible to find any more Caxtons? will be the question cropping up in the mind of the reader. Undoubtedly. The difficulty, however, is to distinguish the genuine article when it is seen. This, however, can be easily overcome. Let the Caxton-hunter remember one or two things. He will never find one of Caxton's books with a title page. Title-pages were unknown till after 1491. There must be no Roman or italic lettering, but all in Gothic or Old English. There must be no commas, but an oblique stroke in their place. Further, there must be no catch-words at the bottom of a page. The use of these, long gone out of fashion, did not come into vogue till years after Caxton's death. There are other tests necessary, such as the measurement of lines, for some of the type used was imitated pretty closely by Caxton's successors. It is clear, however, that during his career Caxton only

used six kinds of type. The first, distinctly foreign in its character, was used by him at Bruges in the printing of "The Recuyell of the Histories of Troye," and in the first edition of "The Game and Playe of the Chesse." This style was never used in England. The second style, such as in "The Moral Proverbs," and "Tulle of Olde Age," printed in 1477 and 1481 respectively, was beautiful and artistic. It follows a design of manuscript which obtained the name of *Gros Batarde*, common in use in the fifteenth century. Several books were written in this manner under the order of Edward IV., and are now to be seen in the British Museum. Looking at the dates when Caxton's books were issued and the types he used, it is evident he did not make new type till the old was worn out. A pretentious style came next in 1483, very bold in its character. It is problematical whether there is a book in this type; the only examples we have of it at present are in headlines. With a little previous study, the Caxton-hunters could at a glance recognize these three styles.

It would not, however, be so easy respecting the type used in "Polychronicon," "Death-bed Prayers," and "The Book of Fame." This is very closely followed by printers of a subsequent date. As far as is known, very few books are in the style of "The Royal Book," published in 1485. The pattern is somewhat Dutch; but among other books in which it is used is "The Book of Good Manners."

The last style of type Caxton employed was small, and not being imitated so much by other printers, would be fairly easy to recognize. Trade-marks were in use in the early days of printing just as they are now, and Caxton in some of his later prints put a mark. To find this trade-mark in a book is not a guarantee he printed it, for his successors adopted in their publications one rather like it. It is, however, comparatively easy to distinguish the imitation.

Some of the most important of Caxton's works are yet to be found. There is not a known book of his printed in 1486 and 1488. It is not likely he ceased printing during these two years. We know there are missing books because Caxton himself in the preface to "The Golden Legende" mentions "XV bookes of Metamorphoseos in whyche ben conteyned the fables of Onyde," but about which nothing whatever is known. Neither has anything been discovered of his translation of "The Lyfe of Robert Erle of Oxenford." There are

indications of the mania again coming upon us of collecting old editions, just as in our youth we spend all our pocket-money in foreign and rare stamps. At the commencement of the century there was a great demand for ancient volumes, but the fever gradually died out. There is an historical interest in finding out Caxtons. It is not the "dead rubbish of a dead generation" we are dealing with when we turn over the leaves of the "Knight of the Tower" or the "Confessio Amantis." In these days of excellence, it is refreshing to turn to the rude letters, the irregular pages, the want of initial letters, and so on. At the end of his translation of "The History of Troy" we are told Caxton's eyes "were dimmed with overmuch looking on the white paper; that his courage was not so prone and ready to labor as it had been; and that age was creeping on him daily and enfeebling his body: that he had practised and learned at his great charge and expense to ordain this said book in print after the manner and form as we see it; and that it was not written with pen and ink as other books be." It was quite usual for the early printers to put something of this kind at the end of their books. For instance, Faust and Schoffer of Mentz stated their works "were not drawn or written by a pen, as all books had been before, but made by a new art and invention of printing, or stamping them by characters or types of metal set in forms."

However much we may crave after Caxton's books in this latter end of the nineteenth century, some of the dignitaries did not look upon the innovation of printing with kindly eyes four hundred years ago. Bishop Bale suggestively referred to Caxton as a "man not quite stupid, nor benumbed with sloth." The rummager among old books will be very glad if even after several years' searching he brings to the light a genuine Caxton. They are not in every garret, but there must be copies in many garrets, being eaten by the worms and slowly destroyed by the damp. May they soon be rescued!—*Chambers's Journal*.

ENGLISH WHIST AND WHIST-PLAYERS.—The imperial Catherine of Russia frequently gave "little whist parties at which she sometimes played and sometimes not," and on one of these occasions, when she was passing from table to table and taking a survey of the different hands and the different modes of treatment by the contending players, she rang the bell to summon the page in waiting from the antechamber. "No page appeared. She rang the bell again. Again without effect." The

empress left the room, "looking daggers," and did not return for a very considerable time. The company supposed that the culprit was already writhing under the knot or speeding under military protection to the steppes of Siberia. Far different was his fortune. The page was found, like his betters, busy at whist, and in the possession of so interesting a hand that he could not tear himself away even to answer the summons of his august mistress. The touch of nature which makes us all kin seized on the empress. With kindly feeling without a parallel in the record of her life, "she despatched the page on her errand and then quietly sat down to hold his cards until his return." Let us remember this genial act of the tyrannical empress, and let us agree to quote it as the crowning proof of the softening influence which the pursuit of whist can exercise over the human mind.

Another lady of softening manners and handsome looks, one of the most attractive faces made familiar to us by the mezzotint engravings from the pictures of Sir Joshua, has come down to us as one of the most ardent card-players of the last century. This was Mrs. Abington, the "Prue" of Reynolds, whose portrait, full of an arch vivacity, shines down upon us with such a charm that, could she be recalled from the grave to reappear in all her loveliness, who would persist, at her invitation, in declining to sit down at the whist-table! She had her card-parties "of which she was very fond, and which were attended by many ladies of the highest rank;" and to maintain them from year to year, according to J. T. Smith, she resorted to a feminine expedient. Her means appear to have been but small, and in order to nurse them, she restrained from wasting her resources in foreign travel or in expensive visits to watering-places in England. To "live incog.," she took a small lodging "in one of the passages leading from Stafford Row, Pimlico, where plants were so placed at the windows" as to restrain the inquisitive passer-by from gazing at the occupants, or perhaps for a change she would take "the small house at the end of Mount Street, and there live with her servant in the kitchen." Then, when life in London was again possible for ladies with aristocratic acquaintances, Mrs. Abington would return to her previous abode, her card parties would again become centres of attraction for her distinguished friends, and she would listen with silent amusement to the compliments of her friends "on the effects of her summer's excursion."—*Temple Bar*.

